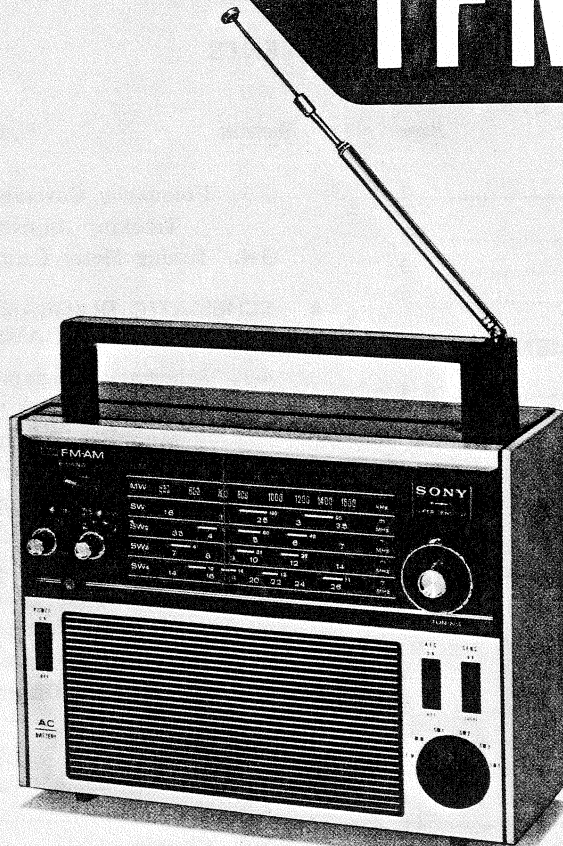


# TFM-1600B



Set using ISO screws

## SPECIFICATIONS

<b>Circuit System:</b> 2-FET 13-transistor 9-diode superheterodyne, 3-transistors for auxiliary circuit	<b>Selectivity</b> at $\pm 10$ kHz off-resonance: 45 dB at 1,400 kHz
<b>Frequency Coverage:</b> FM 87.5~108 MHz (3.42~2.78 m) MW 530~1,605 kHz (566~187 m) SW1 1.6~3.5 MHz (187.5~86 m) SW2 3.5~7 MHz (86~43 m) SW3 7~14 MHz (43~21 m) SW4 14~26.1 MHz (21~11 m)	<b>Power Output</b> at 10% distortion: 1.2W maximum: 1.7W
<b>Intermediate Frequency:</b> FM 10.7 MHz AM 455 kHz	<b>Current Drain</b> at zero signal: FM 30 mA, MW/SW 25 mA at 10% distortion: 500 mA
<b>Antenna System:</b> FM built-in telescopic antenna MW built-in ferrite bar antenna or external antenna. SW built-in telescopic antenna or external antenna	<b>Power Requirement:</b> Four "D" size flashlight batteries 6V in total or ac 120V 50/60 Hz
<b>Sensitivity</b> at 50 mW output: FM $0.9\mu\text{V}$ (1 dB) at S/N 6 dB MW $16\mu\text{V/m}$ (24 dB/m) SW $1.5\mu\text{V}$ (3.5 dB)	<b>Speaker:</b> 10 cm x 15 cm (4" x 6"), $8\Omega$  <b>Dimensions:</b> 290 mm(W) x 222 mm(H) x 100 mm(D) (11 $\frac{3}{8}$ " x 8 $\frac{3}{4}$ " x 3 $\frac{15}{16}$ ")  <b>Weight:</b> 3.65 kg (8 lb $\frac{1}{2}$ oz)

# SONY®

## SERVICE MANUAL

TABLE OF CONTENTS

Section	Title	Page	Section	Title	Page
1.	OUTLINE .....	2	3-3.	Frequency Coverage and Tracking Adjustment .....	12
1-1.	Block Diagram .....	2	3-4.	Tuning Meter Calibration .....	14
1-2.	External View .....	3	4.	SCHEMATIC DIAGRAM AND MOUNTING DIAGRAMS.....	15
1-3.	Internal View .....	3	4-1.	Schematic Diagram .....	15
2.	DISASSEMBLY AND REPLACEMENT .....	4	4-2.	Cp Circuit Board (P2) Mounting Diagram.....	17
2-1.	Rear Cabinet Removal .....	4	4-3.	I-f/Af Circuit Board (P3) Mounting Diagram .....	21
2-2.	Chassis Removal .....	4	4-4.	Fm Front End Circuit Board (P1) Mounting Diagram .....	25
2-3.	Cp Circuit Board Removal .....	5	4-5.	Power Supply Circuit Board (P4) Mounting Diagram .....	27
2-4.	I-f/Af Circuit Board Removal .....	5	4-6.	BFO Circuit Board (P5) Mounting Diagram .....	28
2-5.	Power Supply Circuit Board Removal .....	6	5.	EXPLODED VIEWS .....	29
2-6.	Fm Front End Block Removal .....	6	5-1.	Packing .....	29
2-7.	A-m Tuning Capacitor Removal .....	8	5-2.	Cabinet .....	30
2-8.	Band Selector Drive Sprocket Removal .....	8	5-3.	Chassis .....	31
2-9.	Bfo Block Removal .....	8	6.	ELECTRICAL PARTS LIST .....	33
2-10.	Dial Cord Restrunging .....	9			
	Hardware Nomenclature .....	10			
3.	CIRCUIT ADJUSTMENTS .....	11			
3-1.	Fm I-f Alignment .....	11			
3-2.	A-m I-f Alignment .....	11			

SECTION 1  
OUTLINE

1-1. BLOCK DIAGRAM

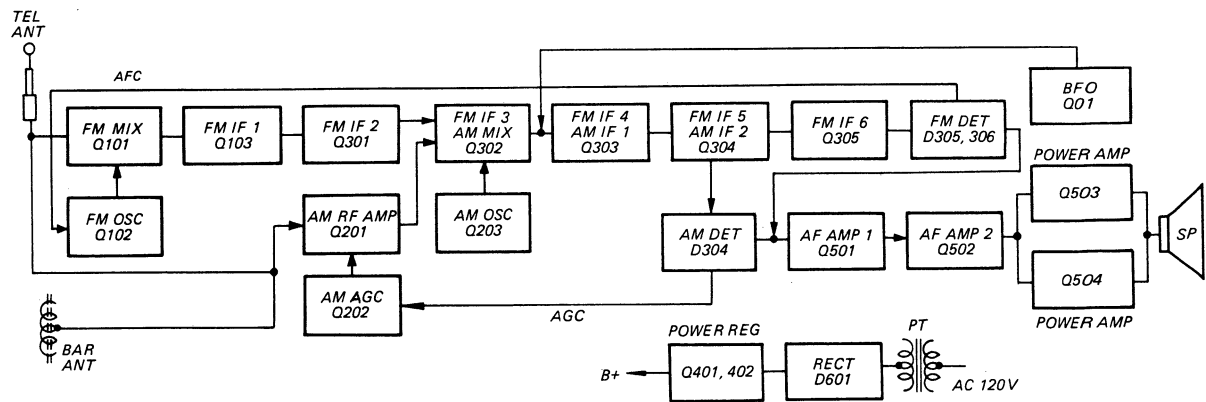


Fig. 1-1.

**1-2. EXTERNAL VIEW**

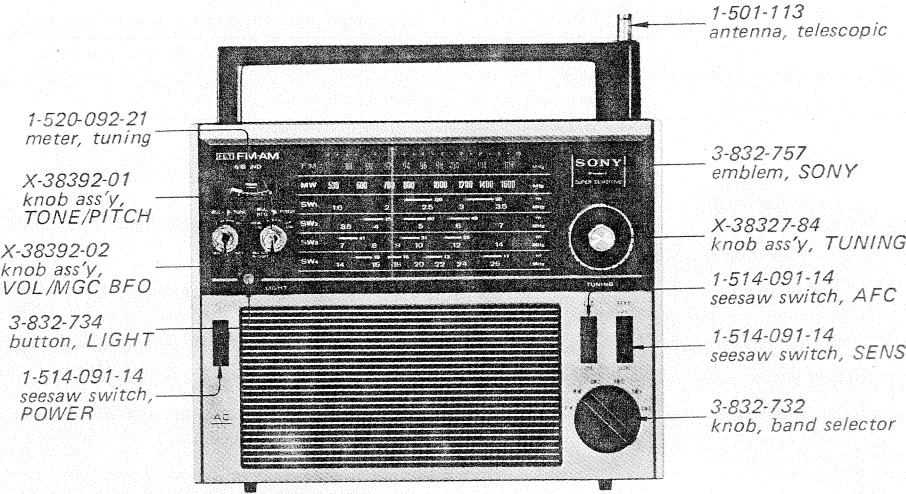


Fig. 1-2.

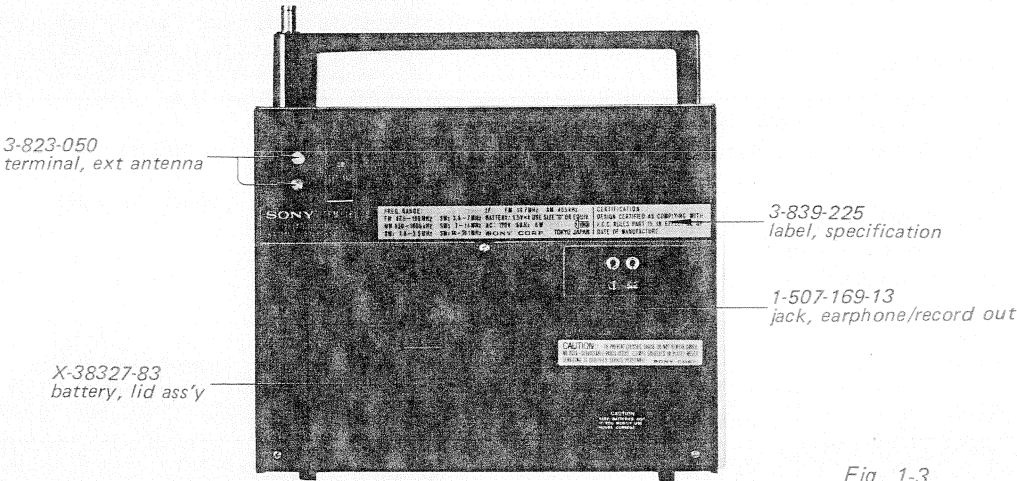


Fig. 1-3.

**1-3. INTERNAL VIEW**

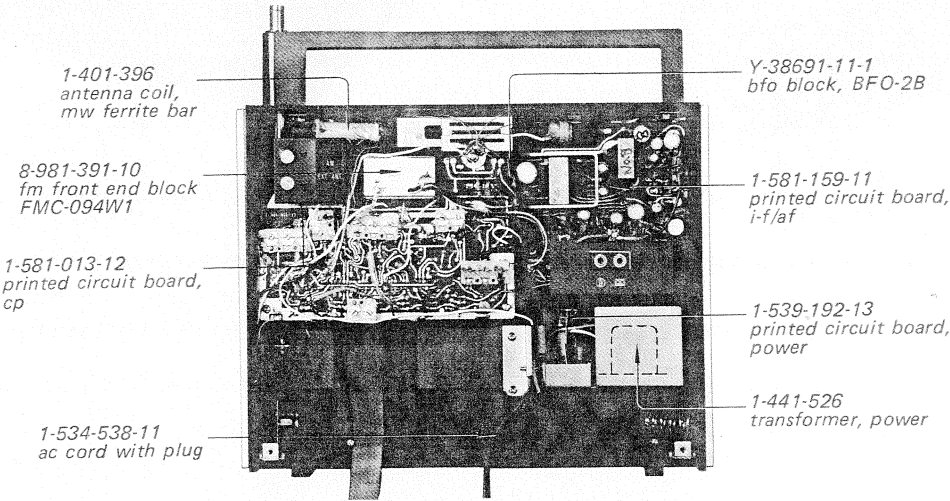


Fig. 1-4.

## SECTION 2 DISASSEMBLY AND REPLACEMENT

### 2-1. REAR CABINET REMOVAL

1. Place the set rear-side-up on a padded work surface.
2. Remove the three screws marked (A) in Fig. 2-1.
3. Lift up the bottom side of the rear cabinet.

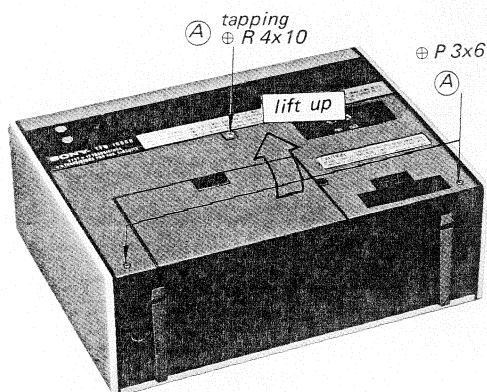


Fig. 2-1. Rear cabinet removal

### 2-2. CHASSIS REMOVAL

1. Pull out the six knobs, VOLUME, TONE, MGC BFO, PITCH, TUNING and Band Selector. (See Fig. 2-2.)
2. Loosen the screw marked (B) in Fig. 2-2.
3. Pull out the telescopic antenna.
4. Remove the rear cabinet.

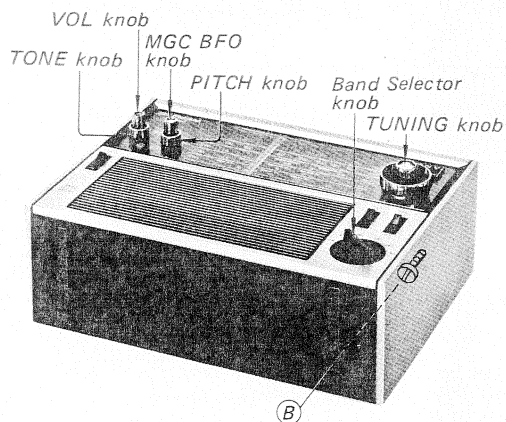


Fig. 2-2. Chassis removal

5. Unsolder the four lamp leads, GRY and RED, shown in Fig. 2-3.
6. Remove the two screws marked (C) in Fig. 2-3.
7. Lift up the chassis as shown in Fig. 2-4.
8. Unsolder the two leads at speaker terminal.

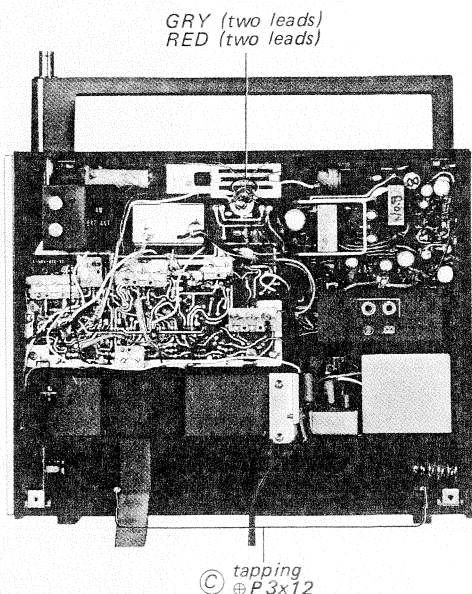


Fig. 2-3. Chassis removal

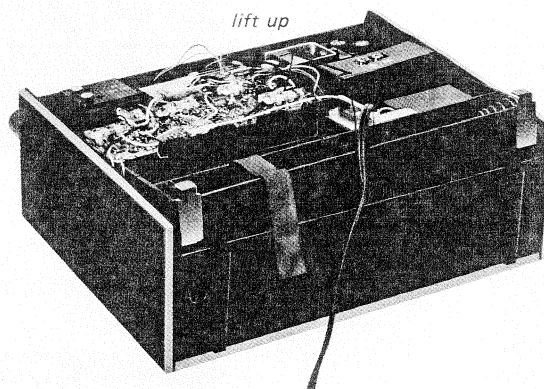


Fig. 2-4. Chassis removal



### 2-3. CP CIRCUIT BOARD REMOVAL

1. Remove the rear cabinet.
2. Remove the chassis.
3. Remove the three screws marked ① in Fig. 2-5.
4. Unsolder the seven leads and the three braided wires in Fig. 2-6.
5. Lift up the cp circuit board in the direction shown by the arrow in Fig. 2-5.

**Note:** The switch shaft on the circuit board can be removed from the sprocket by lifting up the circuit board.

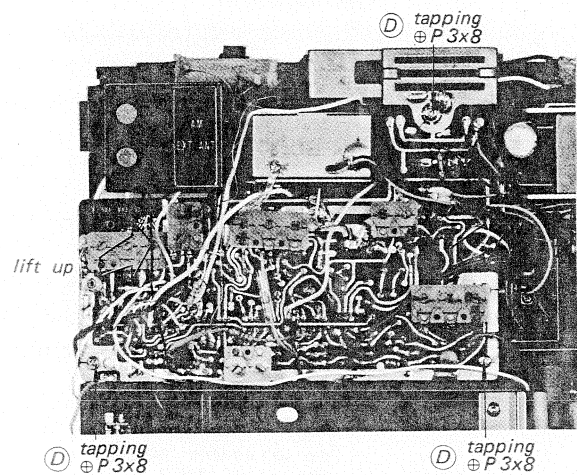


Fig. 2-5. Cp circuit board removal

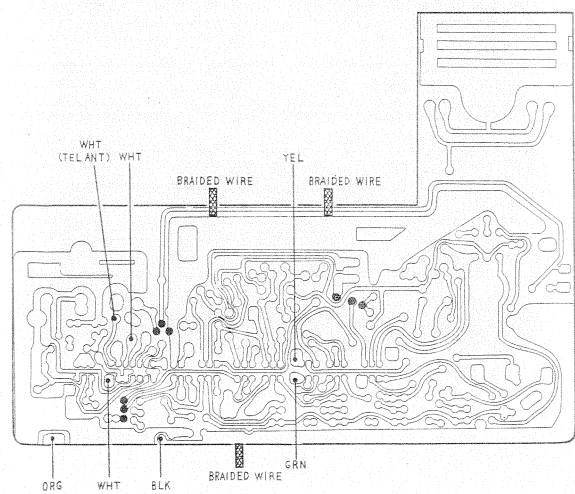


Fig. 2-6. Cp circuit board removal

### 2-4. IF/AF CIRCUIT BOARD REMOVAL

1. Remove the rear cabinet and the chassis.
2. Pull off the jack holder shown in Fig. 2-7.
3. Remove the three screws marked ② in Fig. 2-7.
4. Pull out the i-f/af circuit board carefully in the direction shown by the arrow in Fig. 2-7.

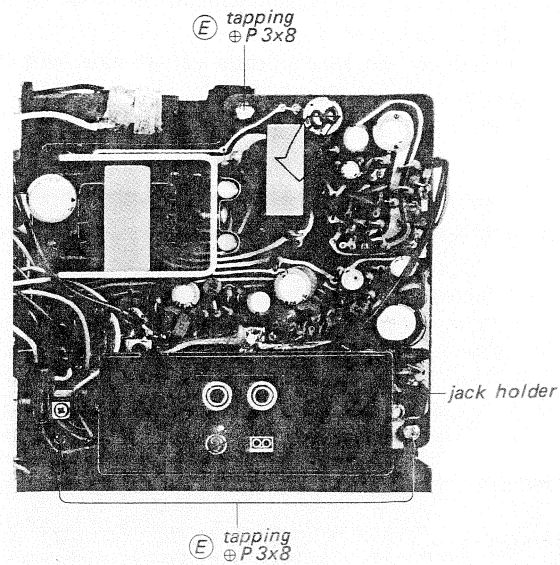


Fig. 2-7. I-f/af circuit board removal

## 2-5. POWER SUPPLY CIRCUIT BOARD REMOVAL

1. Remove the rear cabinet and the chassis.
2. Remove the two screws marked ⑥ in Fig. 2-8.
3. Place the set rear-side-up on a padded work surface.
4. Remove the two screws marked ⑦ in Fig. 2-9.
5. Pull off the transformer-chassis as shown in Fig. 2-10.
6. Straighten the bent portion of two tabs with pliers shown in Fig. 2-10.
7. Pull off the power supply circuit board.

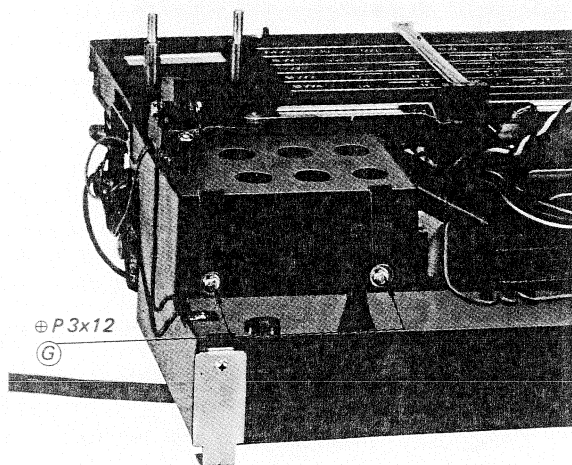


Fig. 2-8. Power supply circuit board removal

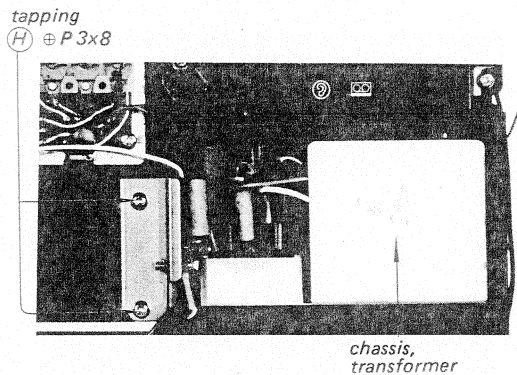


Fig. 2-9. Power supply circuit board removal

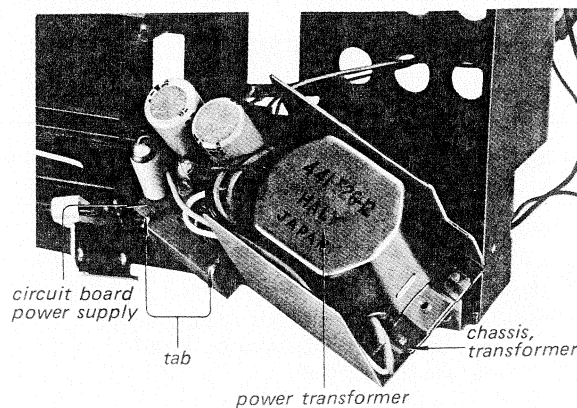


Fig. 2-10. Power supply circuit board removal

## 2-6. FM FRONT END BLOCK REMOVAL

1. Remove the chassis.
2. Unsolder the three braided wires and the three leads (WHT, YEL, GRN) in Fig. 2-11.
3. Unsolder the three leads and a coaxial cable on the i-f/af circuit board coming from the fm front end block in Fig. 2-12. (Refer to I-f/Af Circuit Board Removal on Page 5.)

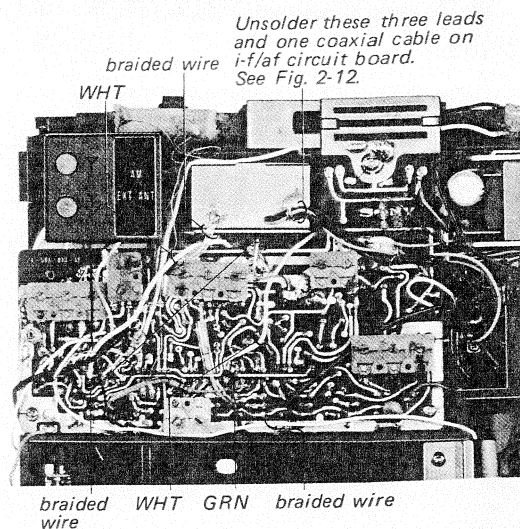


Fig. 2-11. Fm front end block removal

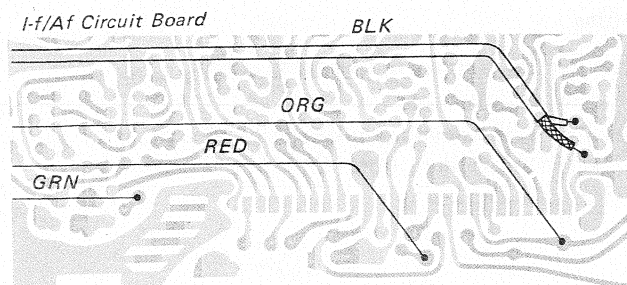


Fig. 2-12. Fm front end block removal

4. Remove the pointer from the sliding cord.
5. Remove the two screws marked ① in Fig. 2-13 and remove the dial scale in the direction shown by the arrow.
6. Remove the three screws marked ② in Fig. 2-14.
7. Take off the pointer driving cord from the two pulleys.

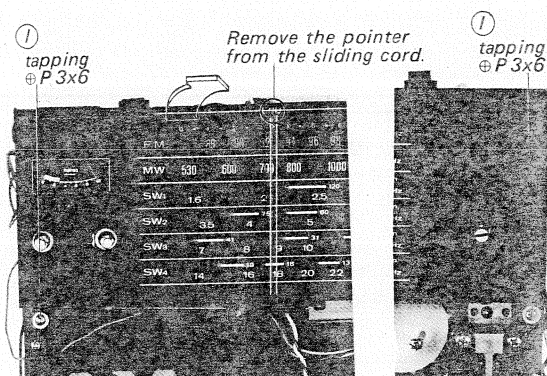


Fig. 2-13. Fm front end block removal

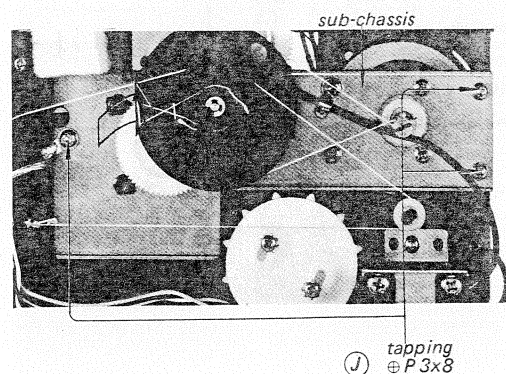


Fig. 2-14. Fm front end block removal

8. Lift up the sub-chassis ass'y as shown in Fig. 2-15.
9. Remove the four screws marked ④ in Fig. 2-15 and ⑤ in Fig. 2-16.
10. Take out the fm front end block from the sub-chassis.

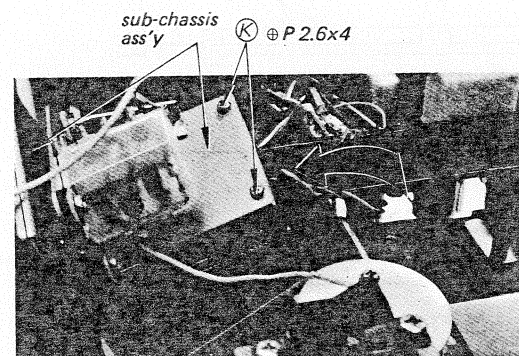


Fig. 2-15. Fm front end block removal

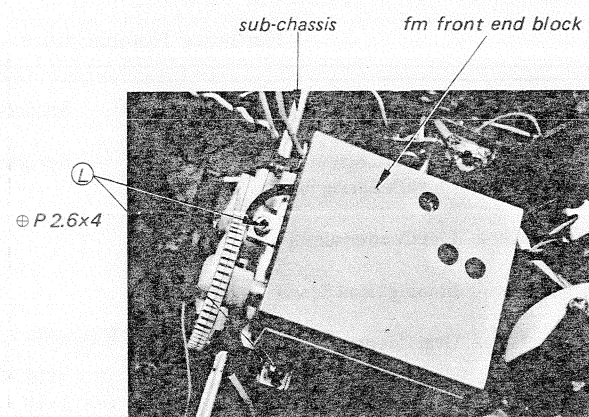


Fig. 2-16. Fm front end block removal

#### Fm Front End Block Reassembly

1. When reassembling fm front end block, turn the tuning drum fully clockwise and the double-gear of fm front end fully counterclockwise to its maximum capacitance position.
2. Engage the double gear to the tuning drum-gear.
3. Set the front end block to the sub-chassis as shown in Fig. 2-16 and fix it with the four screws.

#### 2-7. AM TUNING CAPACITOR REMOVAL

1. Take out the sub-chassis as described in procedure 2-6. (See Fig. 2-15.)
2. Take off the tuning-capacitor-driving cord.
3. Remove the retaining-ring-E shown in Fig. 2-17 and take off the tuning drum.
4. Remove the screw marked ⑦ in Fig. 2-18 and take off the double-gear.
5. Remove the three screws marked ⑧ in Fig. 2-19 and pull off the a-m tuning capacitor in the direction shown by the arrow.

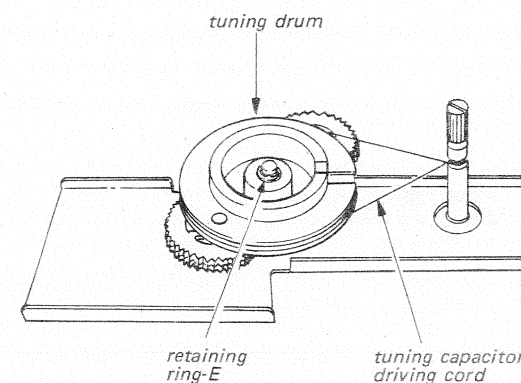


Fig. 2-17.

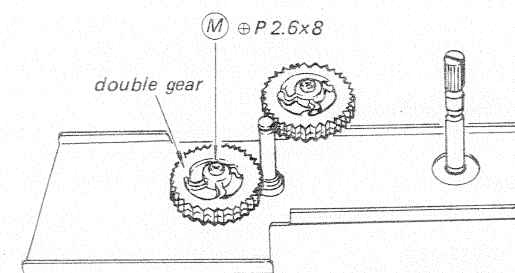


Fig. 2-18.

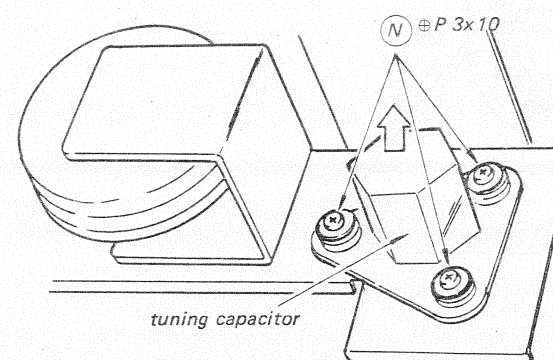


Fig. 2-19.

#### A-m Tuning Capacitor Reassembly

1. Set the tuning capacitor to the sub-chassis by attaching three screws.
2. Put the double-gear on the shaft of the tuning capacitor and attach it with the screw.
3. Turn the double-gear fully counterclockwise to its maximum capacitance position.
4. Set the tuning drum as shown in Fig. 2-17, slot to the right.
5. Set the tuning-capacitor-driving cord.

#### 2-8. BAND SELECTOR DRIVE SPROCKET REMOVAL

1. Remove the two screws marked ⑩ in Fig. 2-20 and remove the drive sprocket.
2. Remove the three screws marked ⑪ and take off the slide switch bracket.
3. Now, the belt is removable.

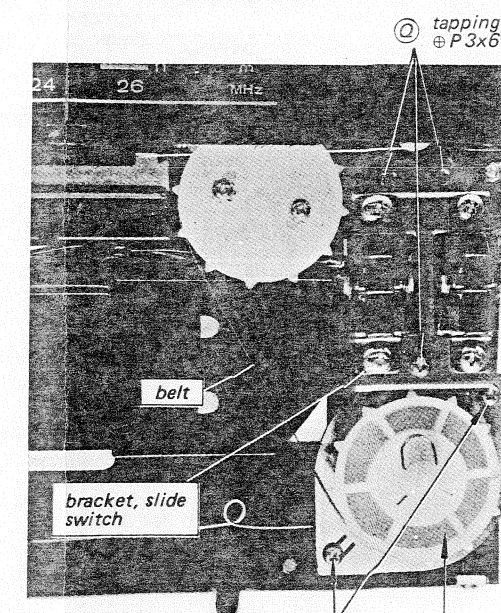


Fig. 2-20.

#### 2-9. BFO BLOCK REMOVAL

1. Remove the i-f/af circuit board. (See Page 5.)
2. Remove the screw shown in Fig. 2-21.

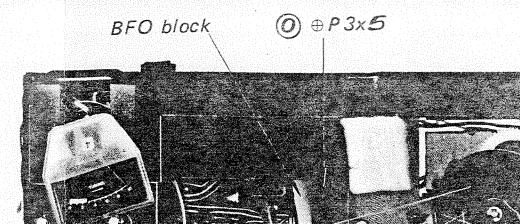


Fig. 2-21. BFO block removal



2-10. DIAL CORD RESTRINGING

Preparation

- 1. Remove the chassis as described in procedure 2-2 and place the chassis dial-scale-side-up.
- 2. Take off the dial scale. (Refer to Step 5 of 2-6 Fm Front End Block Removal on Page 7.)
- 3. Rotate the dial-tuning-drum fully clockwise to its maximum capacitance position.

1. Tuning Capacitor Driving Cord

- 1. Cut a dial cord and make a loop as shown in Fig. 2-22 using a spring and an eyelet.
- 2. String the tuning capacitor driving cord in numerical order as shown in Fig. 2-22.

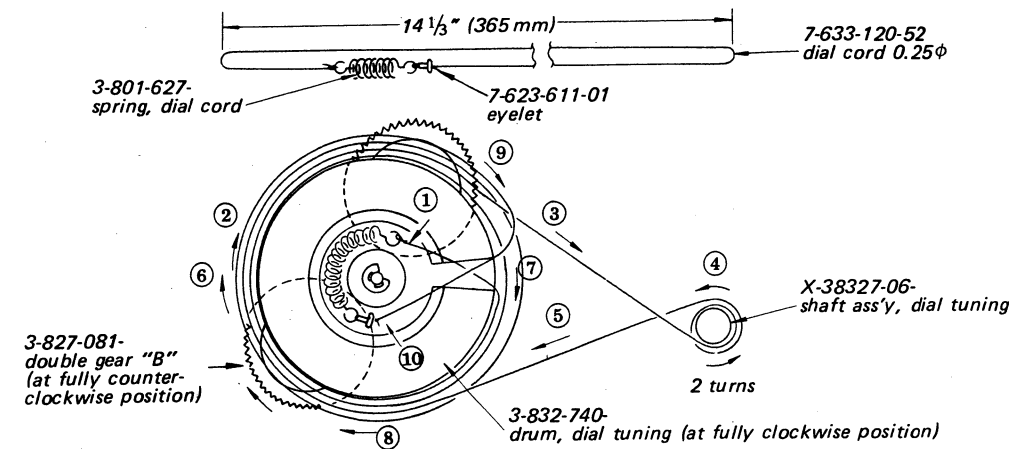


Fig. 2-22. Tuning capacitor driving cord stringing

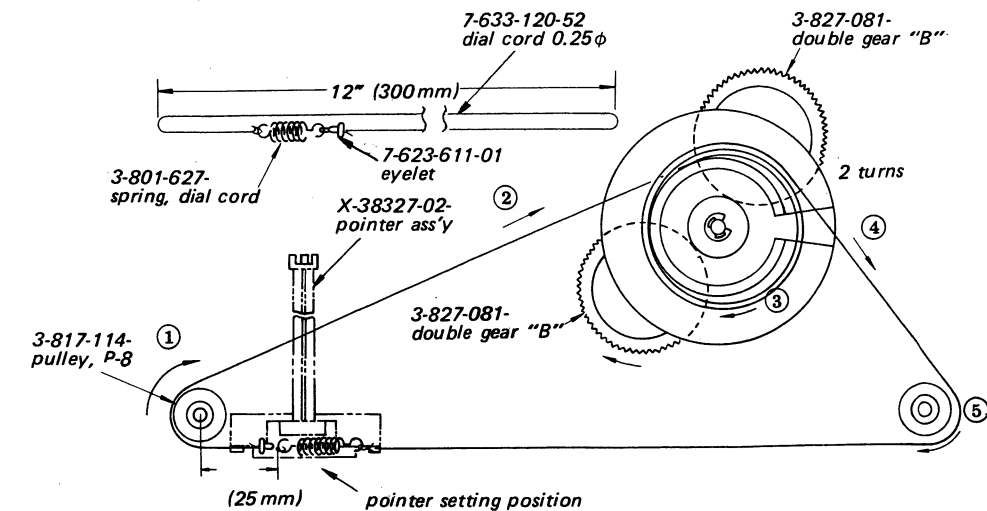


Fig. 2-23. Pointer driving cord stringing

2. Pointer Driving Cord

- 1. Cut a dial cord as shown in Fig. 2-23.
- 2. Keep the tuning shaft at fully counterclockwise position.
- 3. String the pointer driving cord in numerical order, setting the spring to the position shown in Fig. 2-23.

3. Pointer Sliding Cord

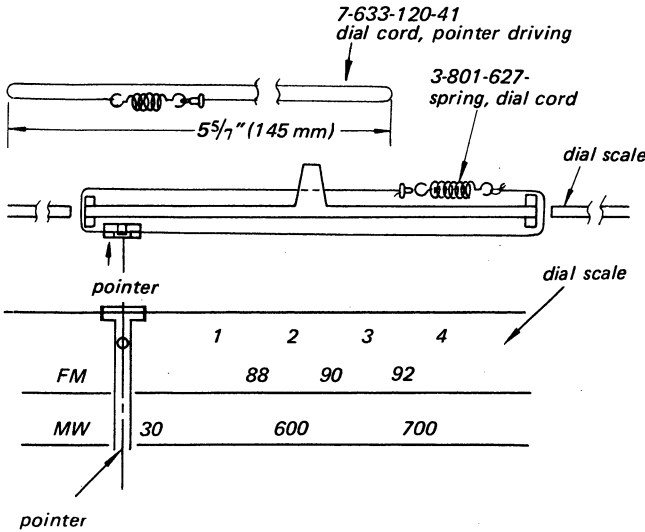


Fig. 2-24. Pointer sliding cord stringing

4. Pointer Setting

- 1. After stringing the pointer sliding cord, attach the dial scale.
- 2. Turn the tuning shaft fully counterclockwise.
- 3. Attach the pointer at 0 on the scale as shown in Fig. 2-24.

— Hardware Nomenclature —

P	Pan Head Screw	⊕	⊕
PS	Pan Head Screw with Spring Washer	⊕	⊕
K	Flat Countersunk Head Screw	⊕	⊕
B	Binding Head Screw	⊕	⊕
RK	Oval Countersunk Head Screw	⊕	⊕
T	Truss Head Screw	⊕	⊕
R	Round Head Screw	⊕	⊕
F	Flat Fillister Head Screw	⊕	⊕
SC	Set Screw	⊕	⊕
E	Retaining Ring (E Washer)	⊕	⊕
	W	Washer	
	SW	Spring Washer	
	LW	Lock Washer	
	N	Nut	
— Example —			
⊕ P 3×10			
Length in mm (L)			
Diameter in mm (D)			
Type of Head			

## SECTION 3 CIRCUIT ADJUSTMENTS

### 3-1. FM IF ALIGNMENT

Test Equipments/Tools Required: 10.7 MHz sweep/marker generator  
Oscilloscope  
Screwdriver for alignment  
0.01  $\mu$ F ceramic capacitor

Sweep Generator Coupling	Sweep Generator Frequency	Oscilloscope Connection	Adjust	Remarks
Across CF F301 through a capacitor 0.01 $\mu$ F (See Fig. 3-1 and 3-3a)	10.7 MHz	Across VOL control (See Fig. 3-3b)	IFT F303 F304 (See Fig. 3-3a)	Band Selector: FM AFC Switch: OFF Adjust for maximum amplitude and symmetrical "S" curve on the scope. (See Fig. 3-2)

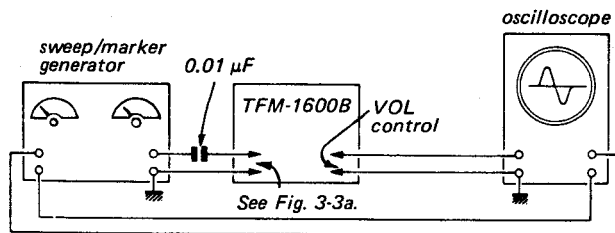


Fig. 3-1. Fm i-f alignment setup

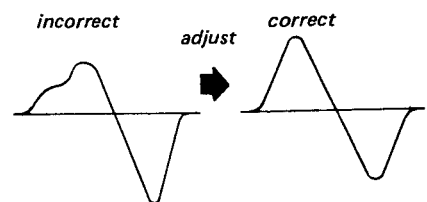


Fig. 3-2. Symmetrical "S" curve

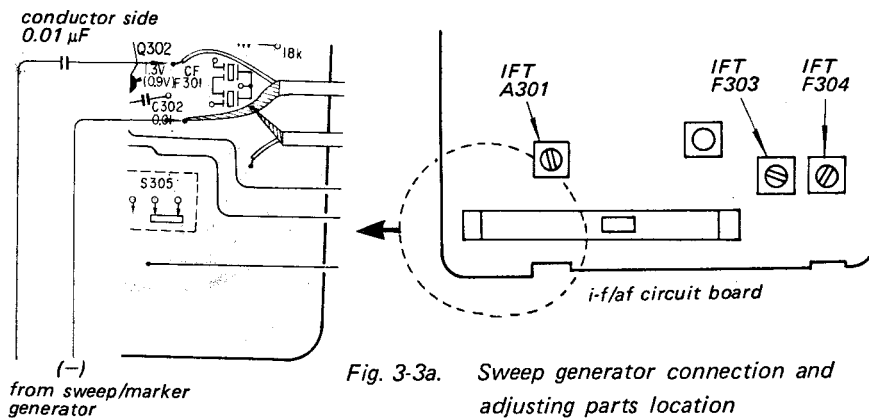


Fig. 3-3a. Sweep generator connection and adjusting parts location

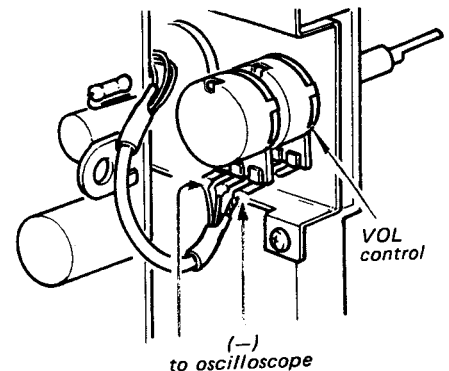


Fig. 3-3b. Oscilloscope connection

### 3-2. AM IF ALIGNMENT

Test Equipments/Tools Required: Rf signal generator (for a-m)  
VTVM  
8  $\Omega$  resistor  
Screwdriver for alignment

Rf Signal Generator Coupling	Rf Signal Generator Frequency	VTVM Connection	Adjust	Remarks
Loop antenna (See Fig. 3-4)	455 kHz (1 kHz 30% a-m)	Earphone jack with 8 $\Omega$ load resistor in parallel	IFT A301 (See Fig. 3-3a)	Band Selector: MW VOL Control: MAX TONE Control: HIGH TUNING Knob: fully clockwise position Adjust for maximum meter reading.



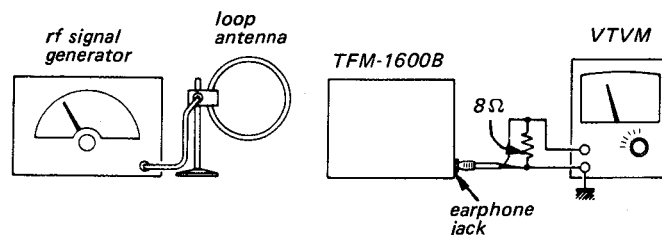


Fig. 3-4. Am i-f alignment, MW frequency coverage and tracking adjustment setup

### 3-3. FREQUENCY COVERAGE AND TRACKING ADJUSTMENT

#### Test Equipments/

Tools Required: Rf signal generator (for fm and a-m)

Loop antenna

VTVM

8Ω resistor

Screwdriver for alignment

Preparation: VTVM Connection : To earphone jack with 8Ω load resistor in parallel.  
 Modulation : FM ... 400 Hz  $\pm$ 22.5 kHz frequency-modulated signal  
 AM ... 1 kHz 30% amplitude-modulated signal  
 VOL Control Setting : MAX  
 TONE Control Setting : HIGH  
 AFC Switch : OFF  
 SENS Switch : DX  
 MGC BFO Control Setting : OFF

Adjustment	Rf Signal Generator Coupling	Rf Signal Generator Frequency	Receiver Dial Setting	Adjust	Remarks
FM Frequency Coverage	Direct connection to the EXT. ANT terminals (See Fig. 3-5)	86.0 MHz	Fully left	FM osc coil L104	Band Selector: FM Adjust for maximum meter reading.
		109.5 MHz	Fully right	FM osc trimmer CT104	
FM Tracking	The special test equipment required for this adjustment makes this strictly a factory adjustment.				
MW Frequency Coverage	Loop antenna (See Fig. 3-4)	520 kHz	Fully left	MW osc coil L211	Band Selector: MW Adjust for maximum meter reading.
		1,680 kHz	Fully right	MW osc trimmer CT211	
MW Tracking		620 kHz	Tune to 620 kHz signal	MW ant coil L201 MW rf coil L206	
		1,400 kHz	Tune to 1,400 kHz signal	MW ant trimmer CT201 MW rf trimmer CT206	

Adjustment	Rf Signal Generator Coupling	Rf Signal Generator Frequency	Receiver Dial Setting	Adjust	Remarks
SW-1 Frequency Coverage	Direct connection to the EXT. ANT terminals	1.55 MHz	Fully left	SW-1 osc coil L212	Band Selector: SW-1 Adjust for maximum meter reading.
SW-1 Tracking		3.7 MHz	Fully right	SW-1 osc trimmer CT212	
		1.55 MHz	Tune to 1.55 MHz signal	SW-1 ant coil L202 SW-1 rf coil L207	
		3.7 MHz	Tune to 3.7 MHz signal	SW-1 ant trimmer CT202 SW-1 rf trimmer CT207	
SW-2 Frequency Coverage	Direct connection to the EXT. ANT terminals	3.3 MHz	Fully left	SW-2 osc coil L213	Band Selector: SW-2 Adjust for maximum meter reading.
SW-2 Tracking		7.3 MHz	Fully right	SW-2 osc trimmer CT213	
		3.3 MHz	Tune to 3.3 MHz signal	SW-2 ant coil L203 SW-2 rf coil L208	
		7.3 MHz	Tune to 7.3 MHz signal	SW-2 ant trimmer CT203 SW-2 rf trimmer CT208	
SW-3 Frequency Coverage	Direct connection to the EXT. ANT terminals	6.7 MHz	Fully left	SW-3 osc coil L214	Band Selector: SW-3 Adjust for maximum meter reading.
SW-3 Tracking		14.5 MHz	Fully right	SW-3 osc trimmer CT214	
		6.7 MHz	Tune to 6.7 MHz signal	SW-3 ant coil L204 SW-3 rf coil L209	
		14.5 MHz	Tune to 14.5 MHz signal	SW-3 ant trimmer CT204 SW-3 rf trimmer CT209	
SW-4 Frequency Coverage	Direct connection to the EXT. ANT terminals	13.5 MHz	Fully left	SW-4 osc coil L215	Band Selector: SW-4 Adjust for maximum meter reading.
SW-4 Tracking		27.0 MHz	Fully right	SW-4 osc trimmer CT215	
		13.5 MHz	Tune to 13.5 MHz signal	SW-4 ant coil L205 SW-4 rf coil L210	
		27.0 MHz	Tune to 27.0 MHz signal	SW-4 ant trimmer CT205 SW-4 trimmer CT210	

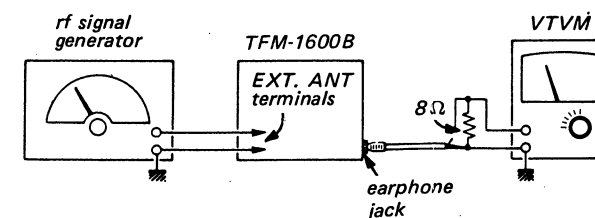


Fig. 3-5. FM, SW frequency coverage and tracking adjustment setup

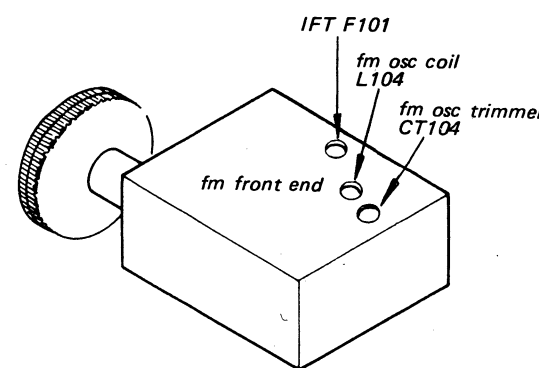


Fig. 3-6. Adjusting parts location, fm front end

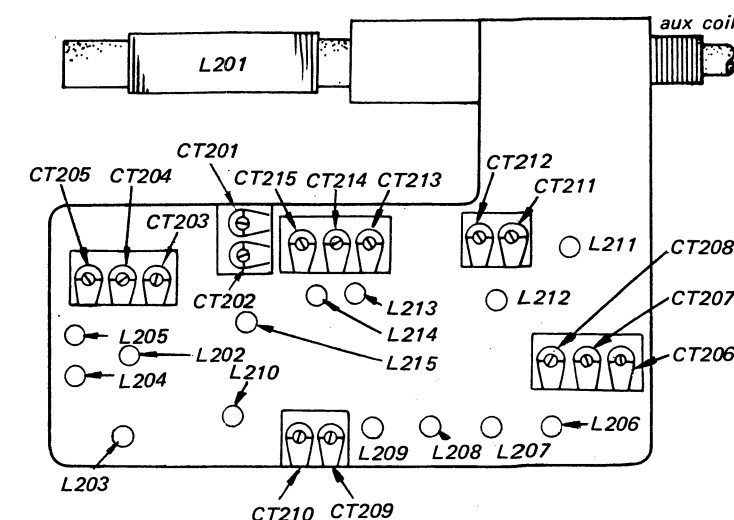


Fig. 3-7. Adjusting parts location, cp circuit board - conductor side view -

## 34. TUNING METER CALIBRATION

- Set the band selector to FM with no radio signal received.
- Make sure that the base voltage of Q303 is 0.8 volts with a VOM (20 k $\Omega$ /V).  
If not, change R314 so as to obtain the value specified above.

R314	Part No.	Description
	1-242-706	24 k $\Omega$ ¼W
	1-242-707	27 k $\Omega$ ¼W
	1-242-708	30 k $\Omega$ ¼W
	1-242-709	33 k $\Omega$ ¼W
	1-242-710	36 k $\Omega$ ¼W
	1-242-711	39 k $\Omega$ ¼W

- Select the value of R320 so that the tuning meter indicates as shown in Fig. 3-8.

R320	Part No.	Description
	1-244-658	240 $\Omega$ ¼W
	1-244-659	270 $\Omega$ ¼W
	1-244-660	300 $\Omega$ ¼W
	1-244-661	330 $\Omega$ ¼W
	1-244-662	360 $\Omega$ ¼W
	1-244-663	390 $\Omega$ ¼W

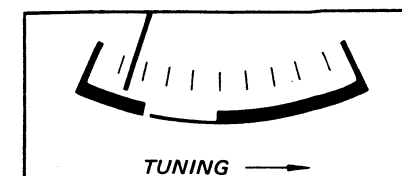
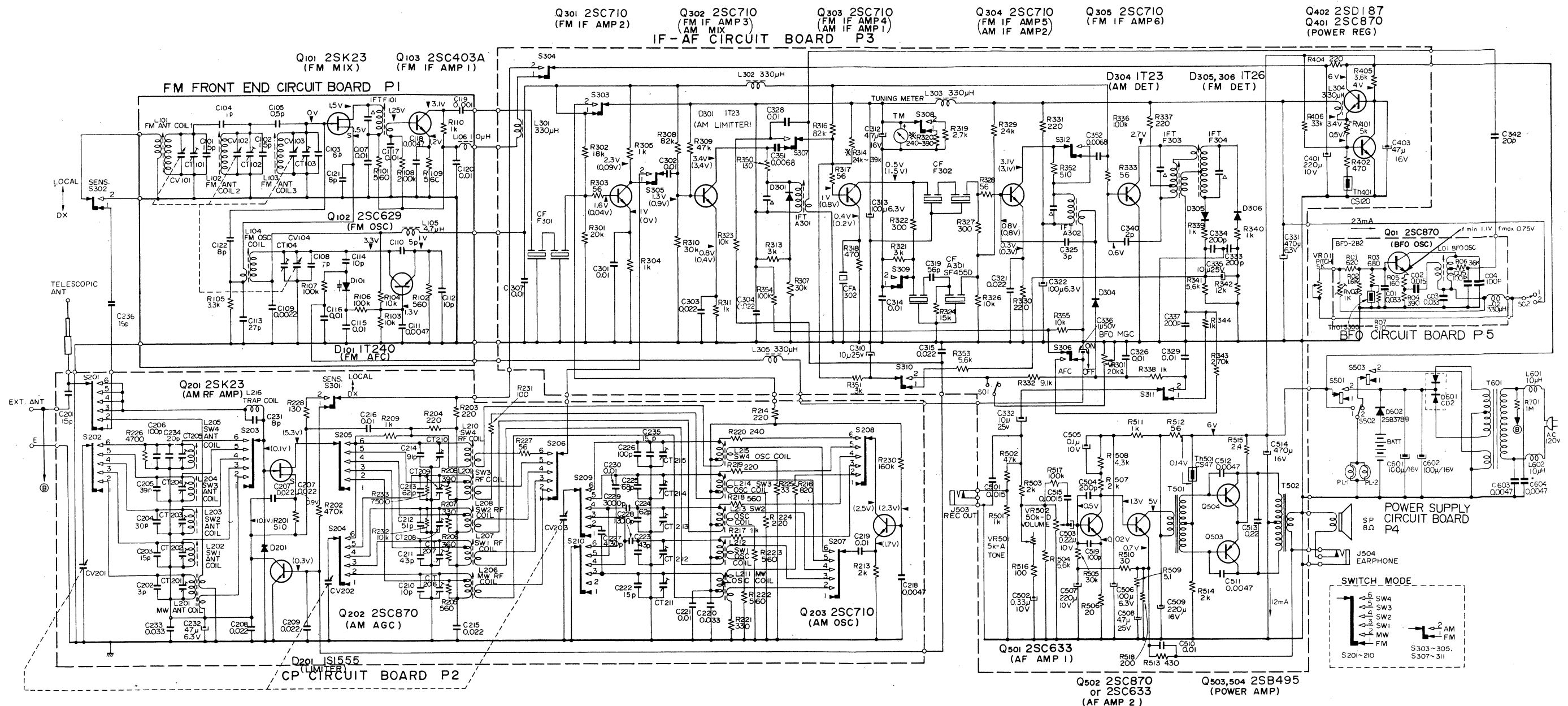


Fig. 3-8. Tuning meter indication with no signal

# SECTION 4

## SCHEMATIC DIAGRAM AND MOUNTING DIAGRAMS

### 4-1. SCHEMATIC DIAGRAM



#### Note:

1. shows grounding to chassis.
2. All resistors and capacitors are in  $\Omega$  and  $\mu F$ , unless otherwise indicated.
3. Capacitor marked  $\Delta$  is built in i-f transformer.
4. The symbol \* indicates a component whose value is selected to yield specified operating condition.

5. Voltage value is measured to ground circuit with a dc voltmeter (20 k $\Omega$ /V) and current value is measured with a dc ammeter. Voltage and current are taken with no radio signal received and the values shown in ( ) with band selector set to MW. Variations may be noted due to normal production tolerances.

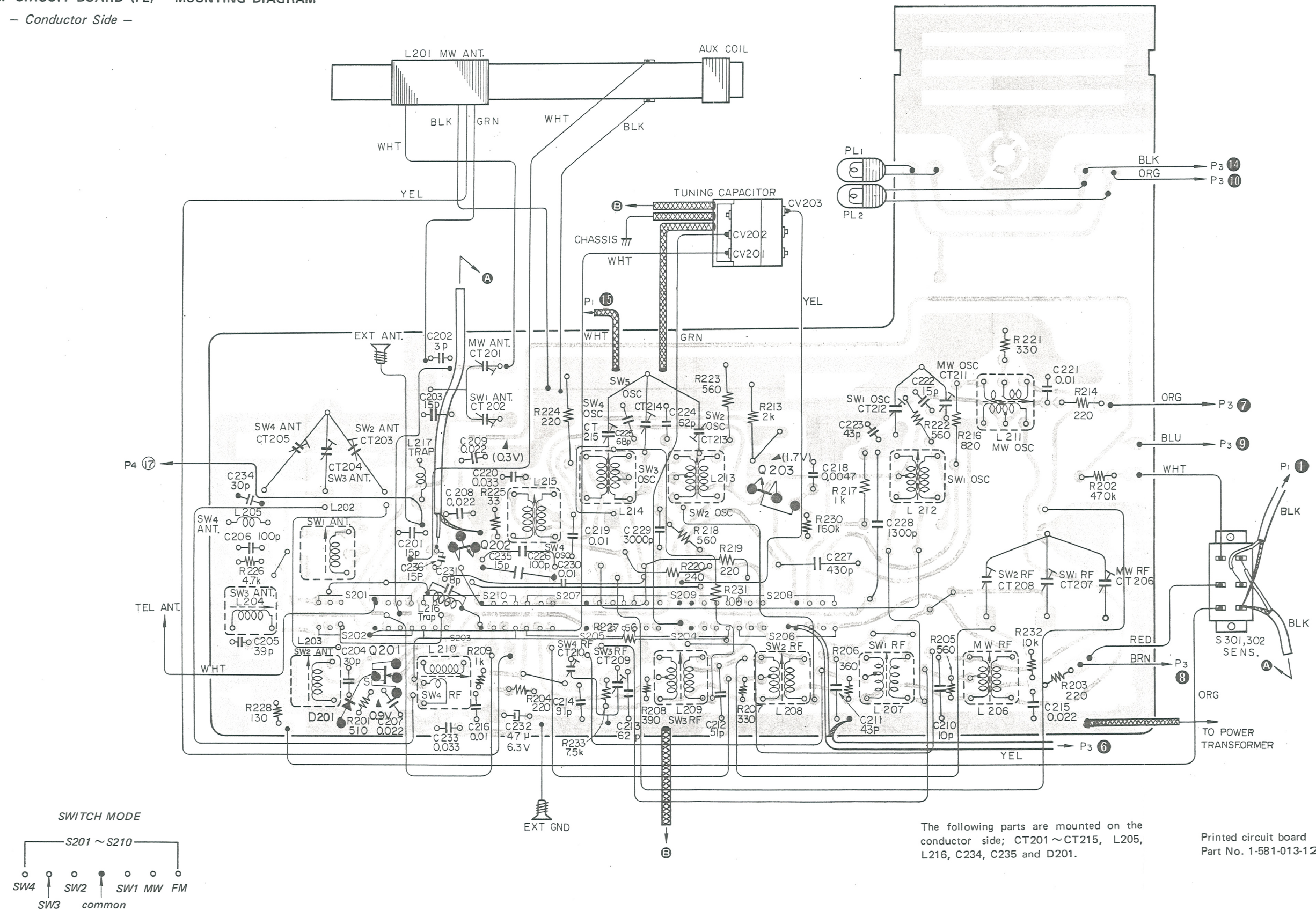
#### 6. Switch Mode

Ref. No.	Function	Position
S201 ~ S210	Band Selector	FM
S301, S302	SENS switch	DX
S303 ~ S305	FM/AM select	FM
S307 ~ S312	AFC switch	OFF
S501, S503	POWER switch	OFF
S502	LIGHT switch	OFF
S01, S02	BFO MGC switch	OFF



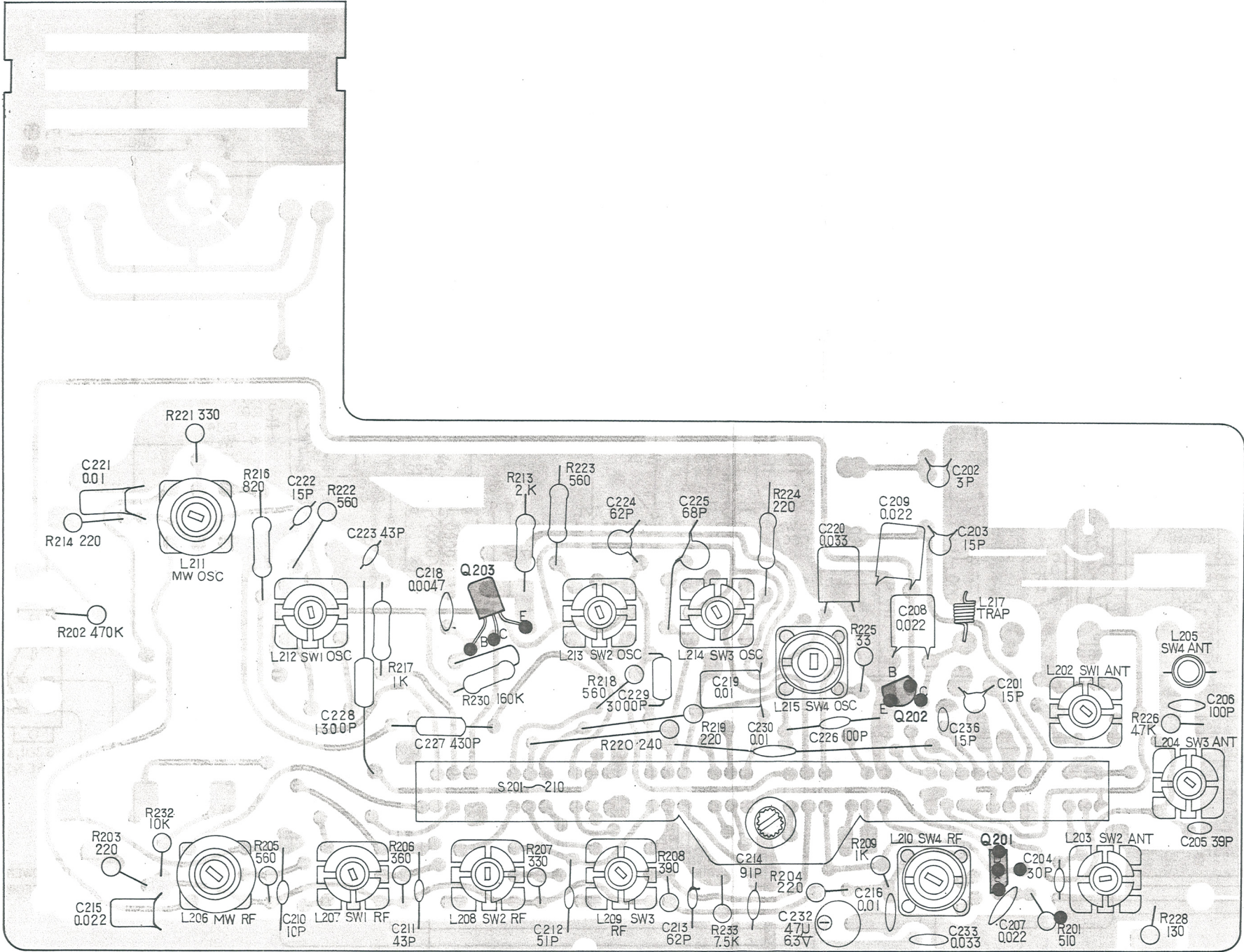
## 4-2. CP CIRCUIT BOARD (P2) – MOUNTING DIAGRAM

– Conductor Side –

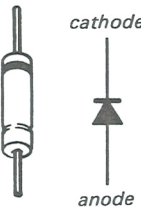




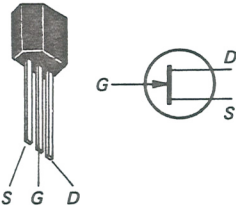
CP CIRCUIT BOARD (P2) — MOUNTING DIAGRAM  
— Component Side —



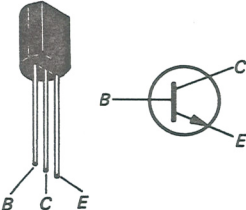
D201 1S1555



Q201 2SK23



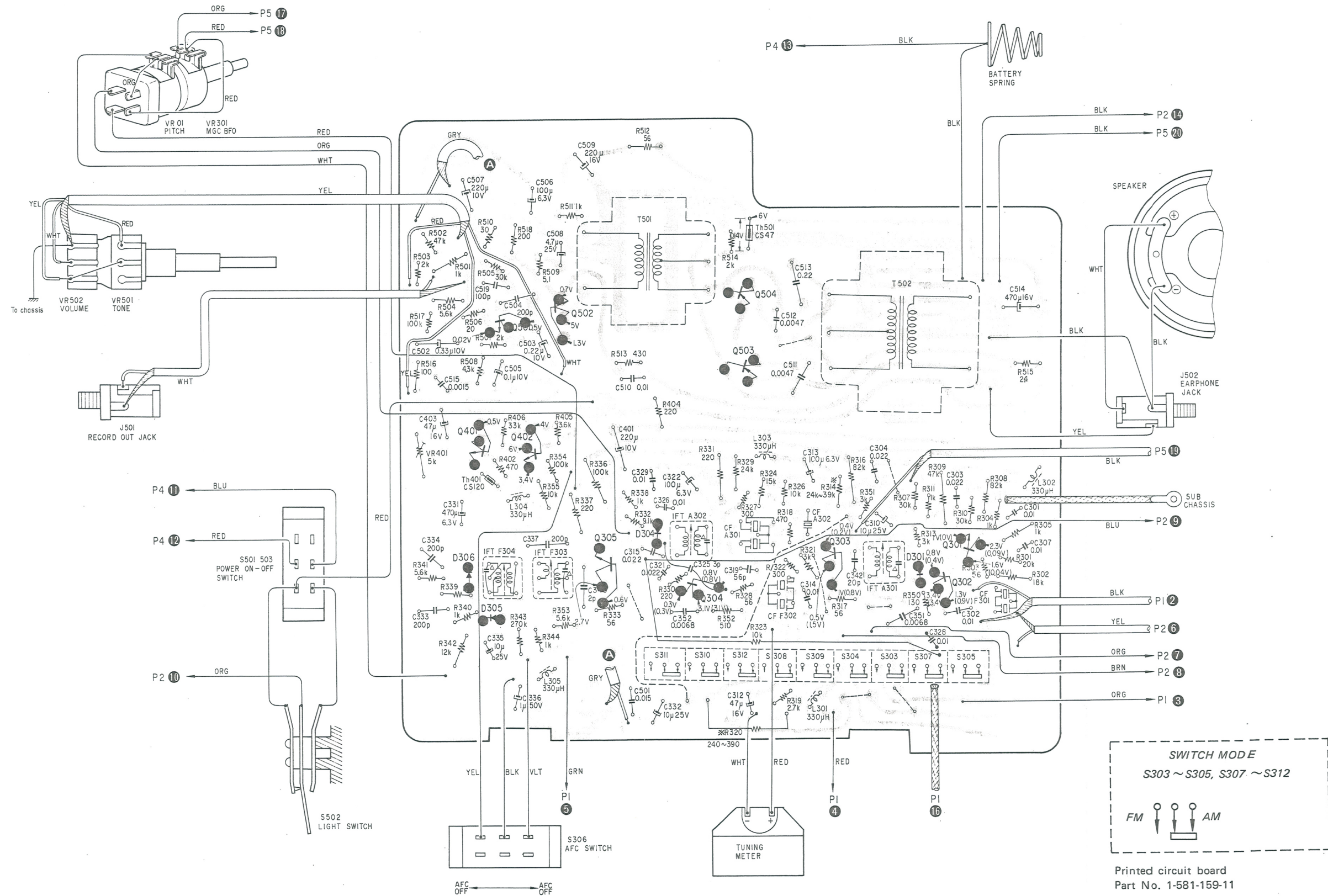
Q202 2SC870  
Q203 2SC710





4-3. IF/AF CIRCUIT BOARD (P3) — MOUNTING DIAGRAM

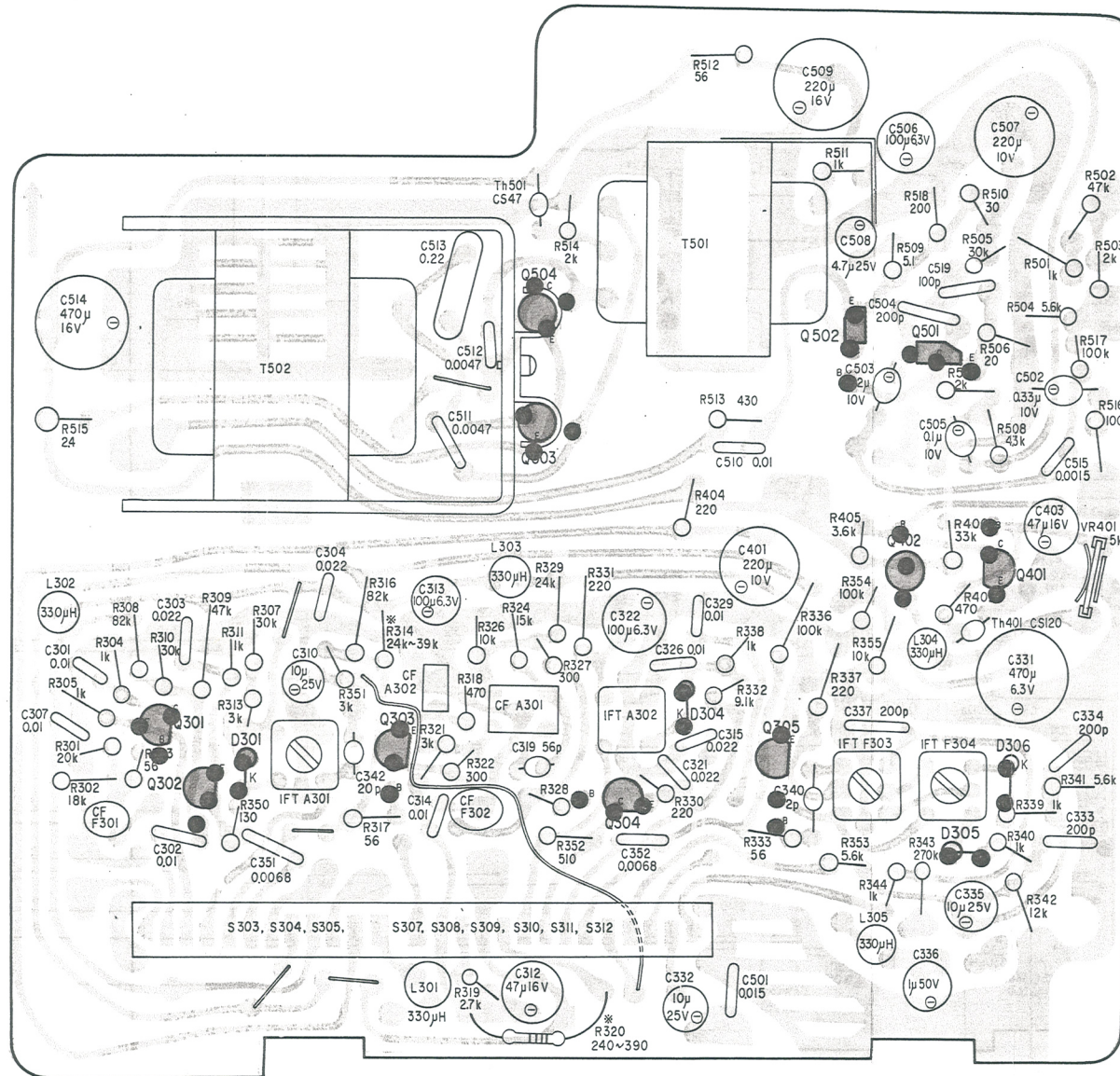
— Conductor Side —



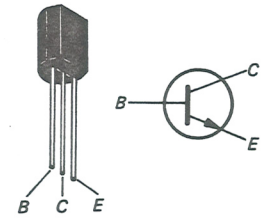


### IF/AF CIRCUIT BOARD (P3) – MOUNTING DIAGRAM

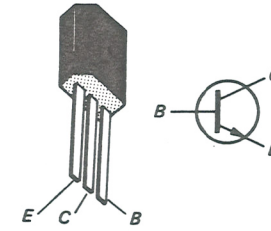
– Component Side –



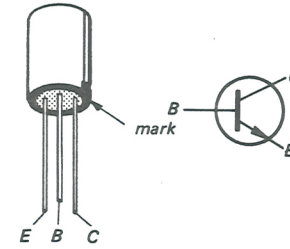
Q301 ~ Q305: 2SC710  
Q401, Q502: 2SC870



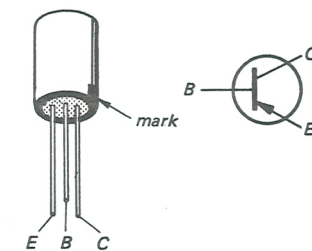
**Q501: 2SC633**



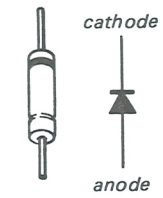
**Q402: 2SD187**



Q503, Q504: 2SB495

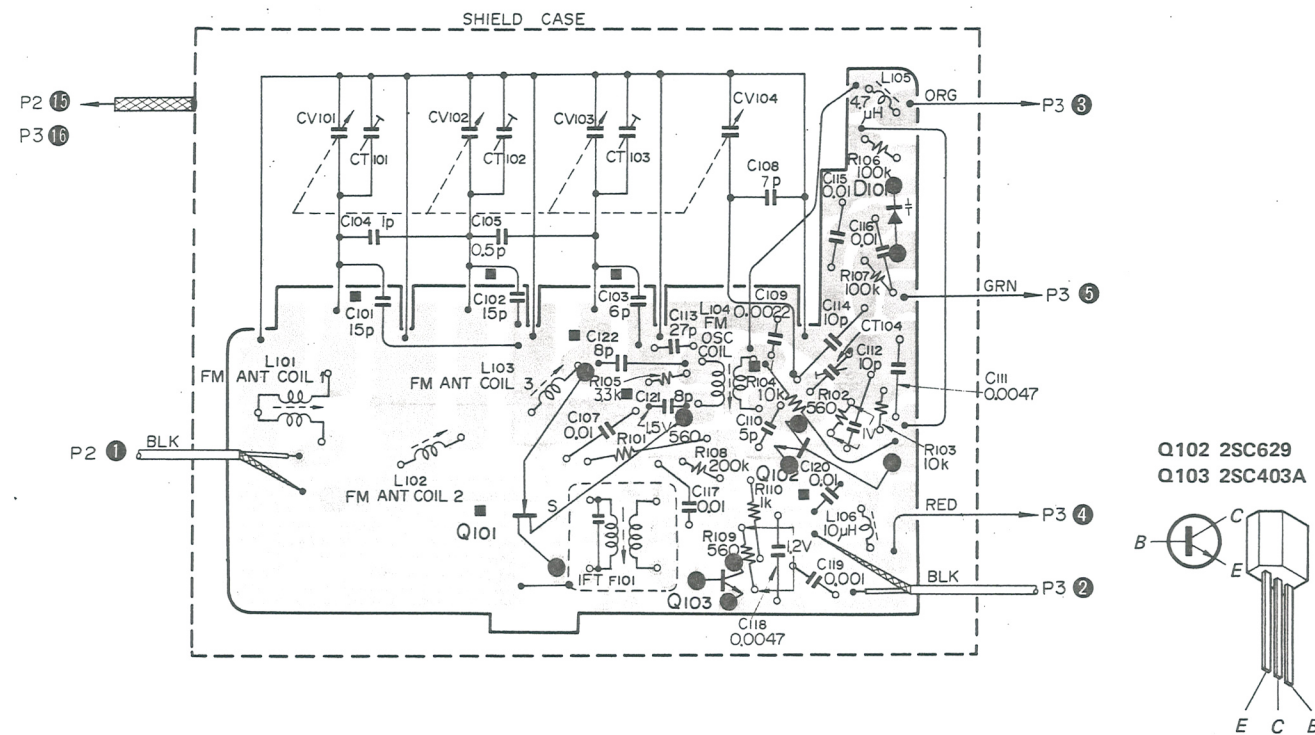


D301, D304: 1T23  
D305, D306: 1T26

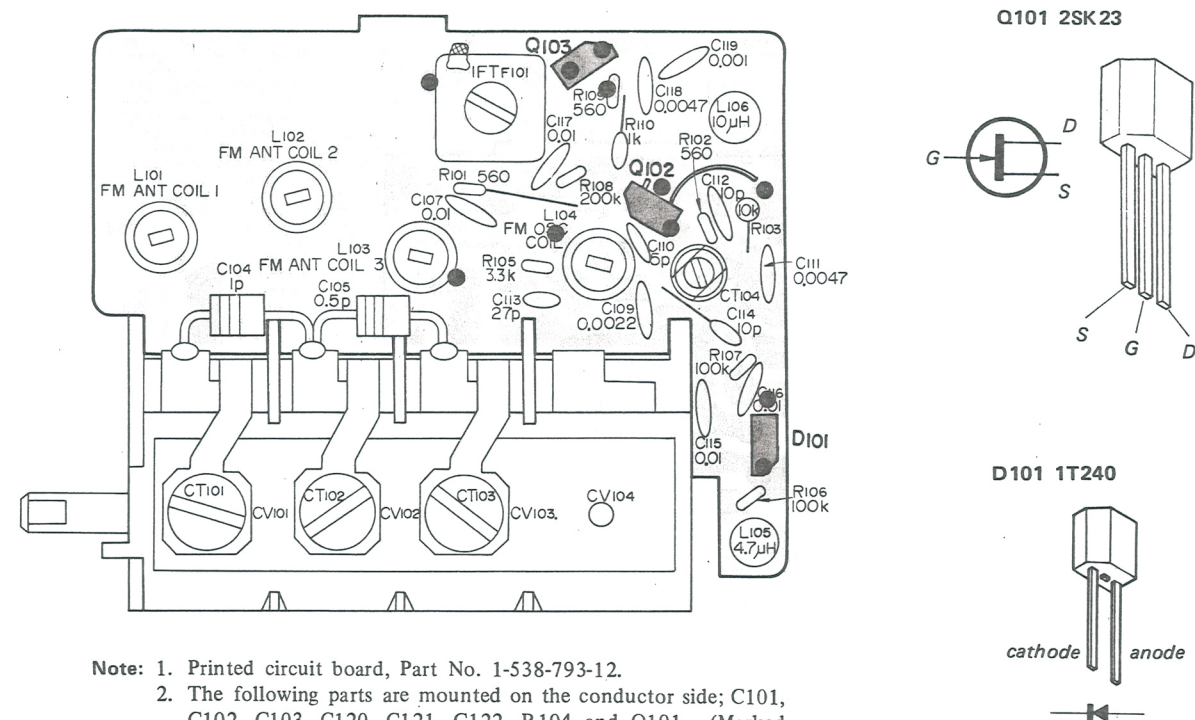


#### 4.4. FM FRONT END CIRCUIT BOARD (P1) – MOUNTING DIAGRAM

— Conductor Side —



– Component Side –



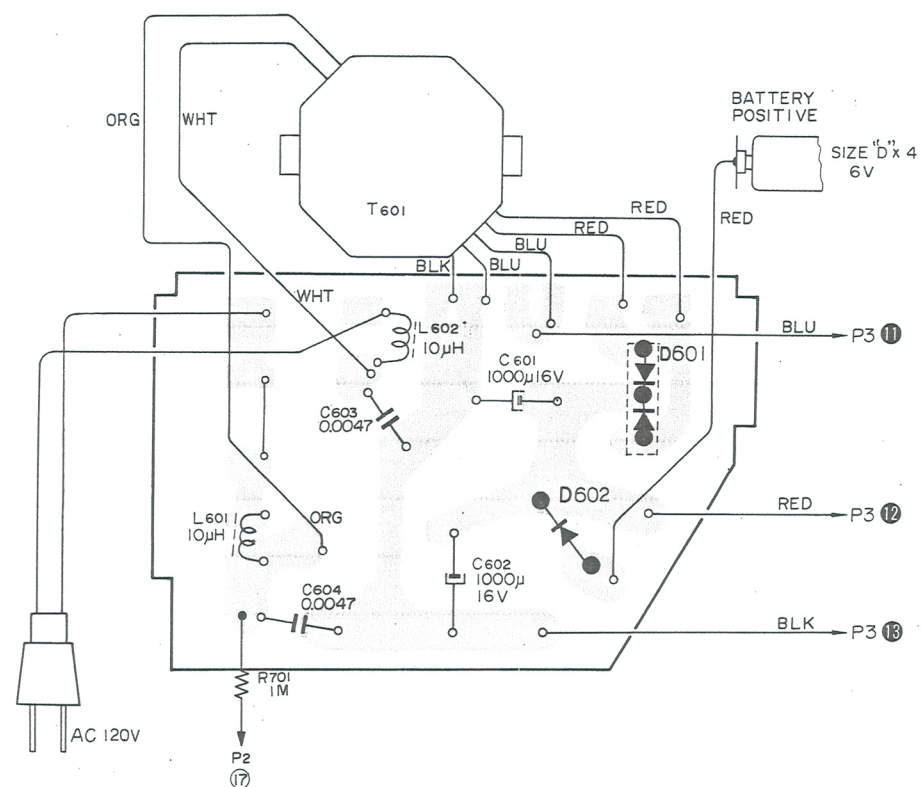
**Note:** 1. Printed circuit board, Part No. 1-538-793-12.  
2. The following parts are mounted on the conductor side; C101, C102, C103, C120, C121, C122, R104 and Q101. (Marked ■ on the conductor side)

## MEMO

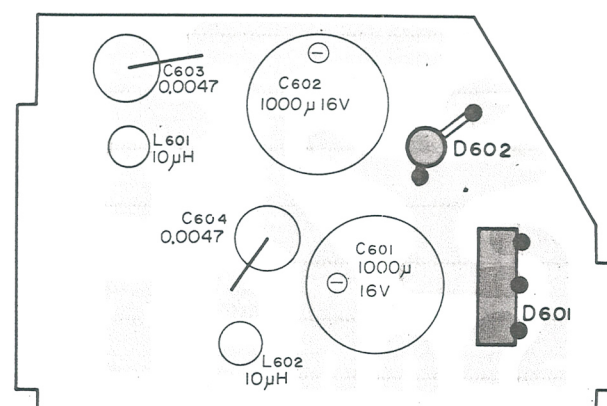


#### 4-5. POWER SUPPLY CIRCUIT BOARD (P4) – MOUNTING DIAGRAM

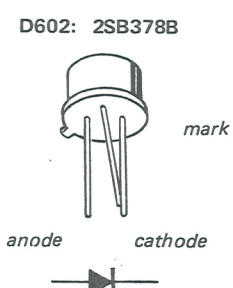
– Conductor Side –



– Component Side –

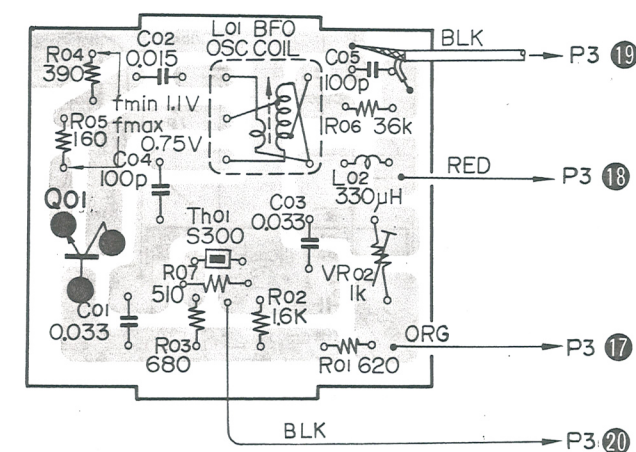


Printed circuit board  
Part No. 1-539-192-13

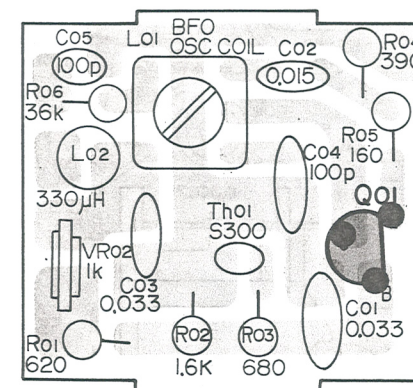


#### 4-6. BFO CIRCUIT BOARD (P5) – MOUNTING DIAGRAM

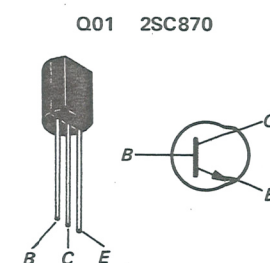
– Conductor Side –



– Component Side –



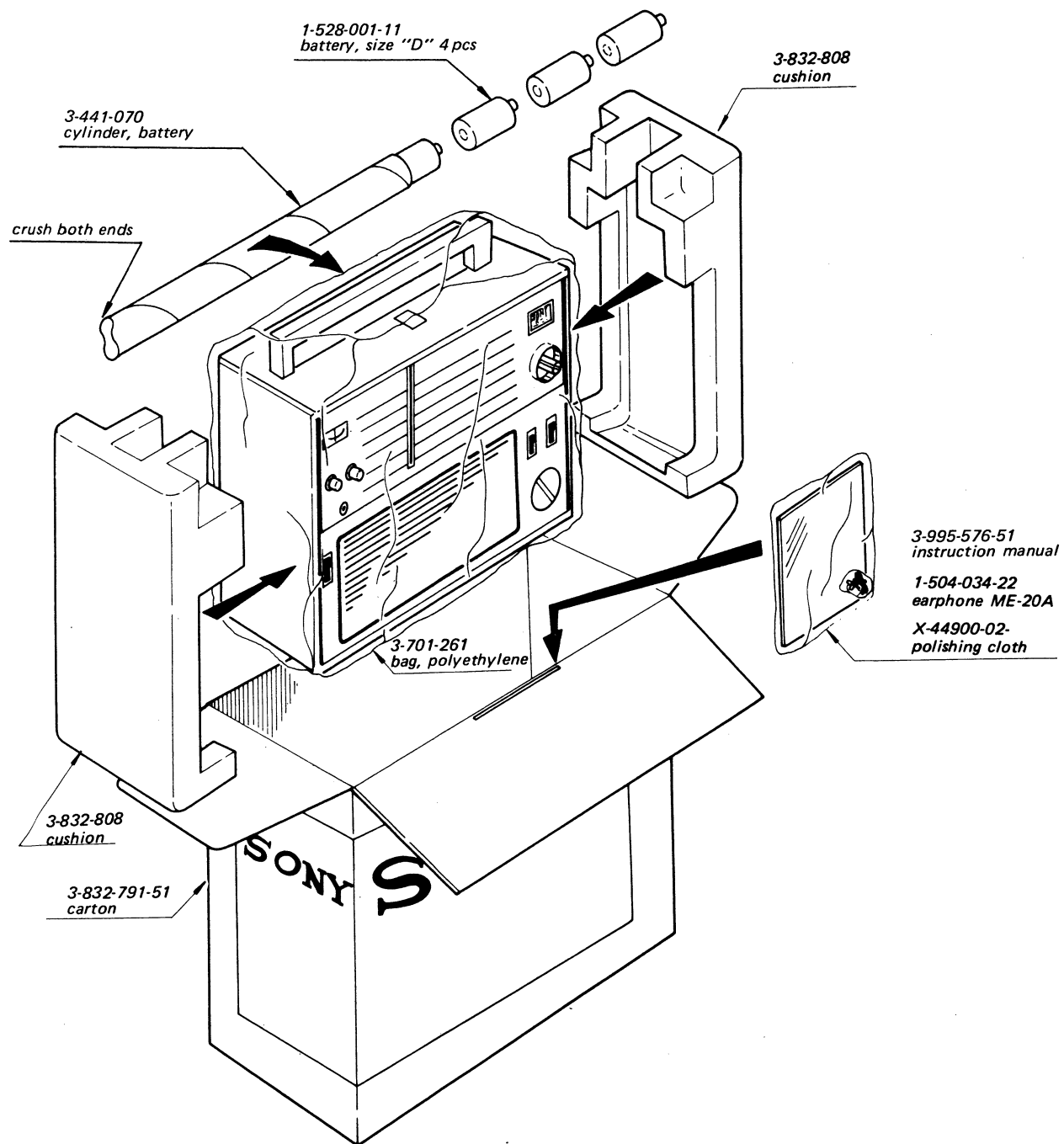
Printed circuit board  
Part No. 1-539-629-12  
R07: mounted on the  
conductor side.



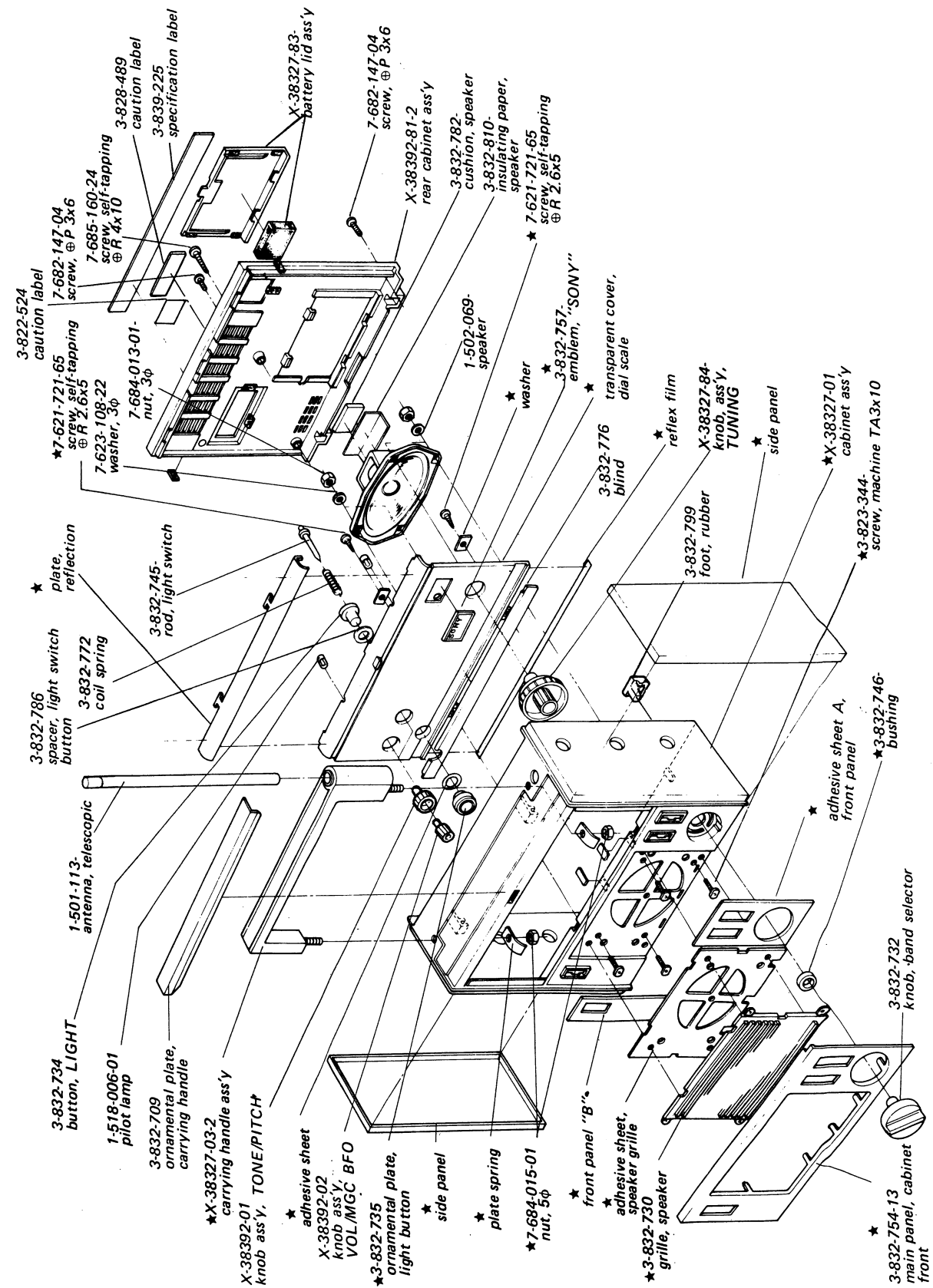
## SECTION 5

### EXPLODED VIEWS

## 5-1. PACKING



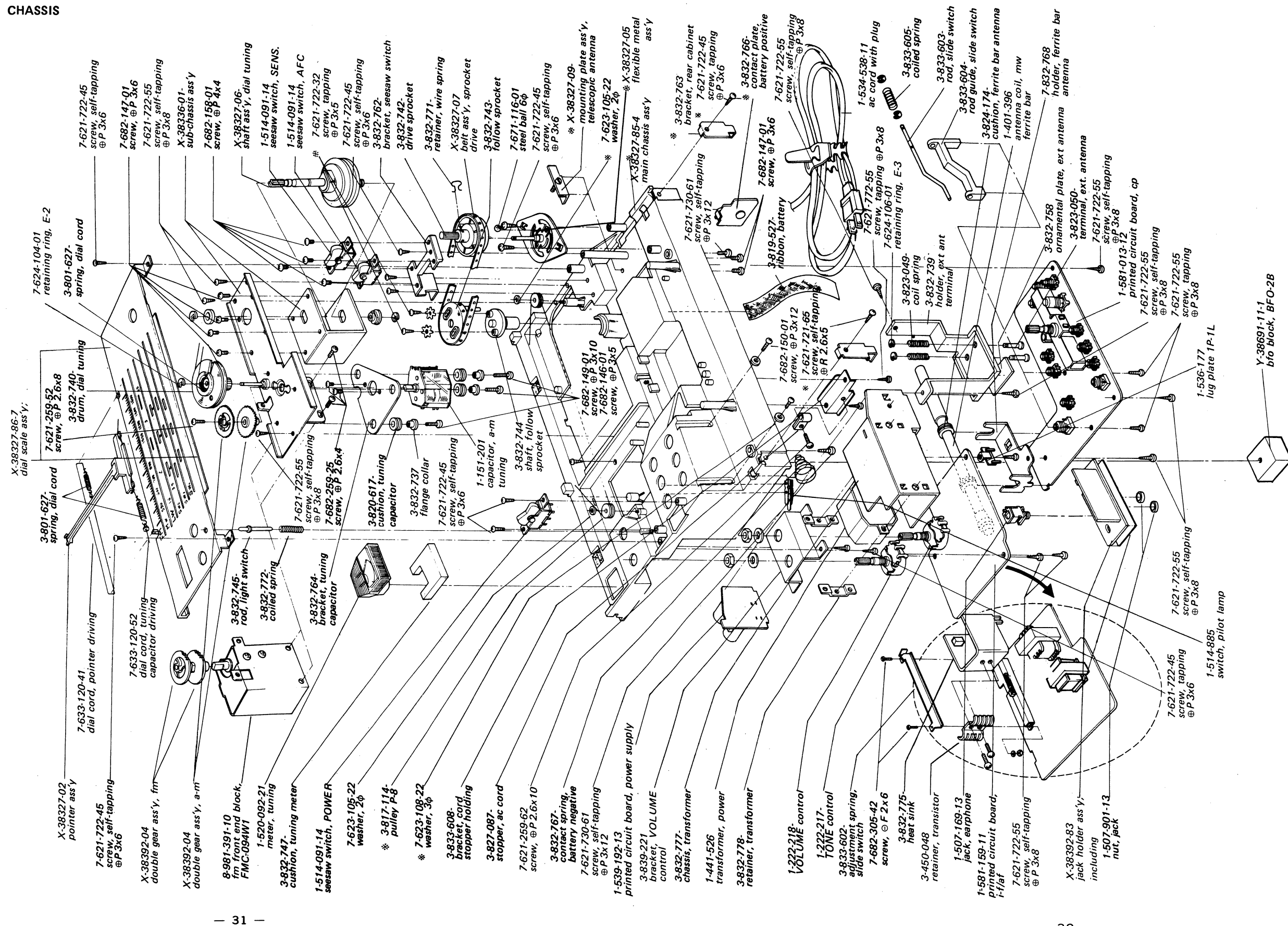
## 5-2. CABINET



Parts marked ★ are included in main cabinet ass'y, X-38392-82-1.



### 5-3. CHASSIS



Parts marked \* are included in main chassis ass'y, Part No. X-38327-85-4.

## SECTION 6

### ELECTRICAL PARTS LIST

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
<b>SEMICONDUCTORS</b>			L212	1-405-400	osc coil, sw1
Q101		transistor 2SK23	L213	1-405-401	osc coil, sw2
Q102		transistor 2SC629	L214	1-405-402	osc coil, sw3
Q103		transistor 2SC403A	L215	1-405-403	osc coil, sw4
Q201		transistor 2SK23	L216	1-401-201	trap coil
Q202		transistor 2SC870	L217	1-401-201	trap coil
Q203		transistor 2SC710	L301	1-407-175	330 $\mu$ H, micro inductor
Q301		transistor 2SC710	L302	1-407-175	330 $\mu$ H, micro inductor
Q302		transistor 2SC710	L303	1-407-175	330 $\mu$ H, micro inductor
Q303		transistor 2SC710	L304	1-407-175	330 $\mu$ H, micro inductor
Q304		transistor 2SC710	L305	1-407-175	330 $\mu$ H, micro inductor
Q305		transistor 2SC710	L01	1-405-450	osc coil, bfo
Q401		transistor 2SC870	L02	1-407-175	330 $\mu$ H, micro inductor
Q402		transistor 2SD187	IFT F101	1-403-294	transformer, fm i-f
Q501		transistor 2SC633	IFT F301		— discarded —
Q502		transistor 2SC870	IFT F302		— discarded —
Q503		transistor 2SB495	IFT F303	1-403-272-31	transformer, fm discriminator
Q504		transistor 2SB495	IFT F304	1-403-273-31	transformer, fm discriminator
Q01		transistor 2SC870	IFT A301	1-403-145-12	transformer, a-m i-f
			IFT A302	1-403-137-11	transformer, a-m i-f
D101		diode 1T240	CF F301	1-527-501-13	ceramic filter, fm i-f
D301		diode 1T23	CF F302	1-527-501-13	ceramic filter, fm i-f
D302		— discarded —	CF A301	1-403-161-13	ceramic filter, a-m i-f
D303		— discarded —	CF A302	1-403-154-11	ceramic filter, a-m i-f
D304		diode 1T23	T501	1-423-100	transformer, driver
D305		diode 1T26	T502	1-427-259	transformer, output
D306		diode 1T26	T601	1-441-526	transformer, power
D601		diode CD-2	L601	1-407-157	10 $\mu$ H, micro inductor
D602		diode 2SB378B	L602	1-407-157	10 $\mu$ H, micro inductor
Th401		thermistor CS-120	<b>CAPACITORS</b>		
Th501		thermistor CS-47	C101	1-101-861	15pF ceramic
Th01		thermistor S-300	C102	1-101-861	15pF ceramic
<b>COILS AND TRANSFORMERS</b>			C103	1-101-956	6pF ceramic
L101	1-425-526	antenna coil 1, fm	C104	1-101-937	1pF ceramic
L102	1-425-525	antenna coil 2, fm	C105	1-101-936	0.5pF ceramic
L103	1-425-525	antenna coil 3, fm	C106		— discarded —
L104	1-405-386	osc coil, fm	C107	1-101-072	0.01 $\mu$ F ceramic
L105	1-407-186	micro inductor, 4.7 $\mu$ H	C108	1-101-662	7pF ceramic
L106	1-407-190	micro inductor, 10 $\mu$ H	C109	1-102-121	0.0022 $\mu$ F ceramic
L201	1-401-396	antenna coil, mw ferrite bar	C110	1-102-864	5pF ceramic
L202	1-401-397	ant coil, SW1	C111	1-102-090	0.0047 $\mu$ F ceramic
L203	1-401-398	ant coil, SW2	C112	1-102-508	10pF ceramic
L204	1-401-399	ant coil, SW3	C113	1-101-869	27pF ceramic
L205	1-401-400	ant coil, SW4	C114	1-101-976	10pF ceramic
L206	1-425-552	rf coil, mw	C115	1-101-072	0.01 $\mu$ F ceramic
L207	1-425-553	rf coil, sw1	C116	1-101-072	0.01 $\mu$ F ceramic
L208	1-425-554	rf coil, sw2	C117	1-101-072	0.01 $\mu$ F ceramic
L209	1-425-555	rf coil, sw3	C118	1-105-829-12	0.0047 $\mu$ F mylar
L210	1-425-556	rf coil, sw4	C119	1-101-918	0.001 $\mu$ F ceramic
L211	1-405-399	osc coil, mw	C120	1-101-072	0.01 $\mu$ F ceramic
			C121	1-101-958	8pF ceramic
			C122	1-101-958	8pF ceramic

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>		<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	
C201	1-101-899	15pF	ceramic	C317		— discarded —	
C202	1-101-953	3pF	ceramic	C318		— discarded —	
C203	1-101-861	15pF	ceramic	C319	1-101-885	56pF	ceramic
C204	1-101-900	30pF	ceramic	C320		— discarded —	
C205	1-101-877	39pF	ceramic	C321	1-105-413-12	0.022μF	mylar
C206	1-101-963	100pF	ceramic	C322	1-121-413	100μF 6.3 V	electrolytic
C207	1-105-837-12	0.022μF	mylar	C323		— discarded —	
C208	1-105-837-12	0.022μF	mylar	C324		— discarded —	
C209	1-105-837-12	0.022μF	mylar	C325	1-101-953	3pF	ceramic
C210	1-101-960	10pF	ceramic	C326	1-105-411-12	0.01μF	mylar
C211	1-101-879	43pF	ceramic	C327		— discarded —	
C212	1-101-883	51pF	ceramic	C328	1-105-411-12	0.01μF	mylar
C213	1-101-887	62pF	ceramic	C329	1-105-411-12	0.01μF	mylar
C214	1-101-895	91pF	ceramic	C330		— discarded —	
C215	1-105-837-12	0.022μF	mylar	C331	1-121-425	470μF 6.3 V	electrolytic
C216	1-105-833-12	0.01μF	mylar	C332	1-121-398	10μF 25 V	electrolytic
C217		— discarded —		C333	1-107-138	200pF	silvered mica
C218	1-105-829-12	0.0047μF	mylar	C334	1-107-138	200pF	silvered mica
C219	1-105-833-12	0.01μF	mylar	C335	1-121-398	10μF 25 V	electrolytic
C220	1-105-839-12	0.033μF	mylar	C336	1-121-391	1μF 50 V	electrolytic
C221	1-105-833-12	0.01μF	mylar	C337	1-107-138	200pF	silvered mica
C222	1-101-899	15pF	ceramic	C338		— discarded —	
C223	1-102-966	43pF	ceramic	C339		— discarded —	
C224	1-101-887	62pF	ceramic	C340	1-101-952	2pF	ceramic
C225	1-109-889	68pF	ceramic	C341		— discarded —	
C226	1-101-963	100pF	ceramic	C342	1-102-958	20pF	ceramic
C227	1-103-716	430pF	styrol				
C228	1-103-728	1,300pF	styrol	C351	1-105-831-12	0.0068μF	mylar
C229	1-103-736	3,000pF	styrol	C352	1-105-831-12	0.0068μF	mylar
C230	1-105-833-12	0.01μF	mylar				
C231	1-101-958	8pF	ceramic	C401	1-121-420	220μF 10 V	electrolytic
C232	1-121-409	47μF 16 V	electrolytic	C402		— discarded —	
C233	1-105-839-12	0.033μF	mylar	C403	1-121-409	47μF 16 V	electrolytic
C234	1-101-973	20pF	ceramic				
C235	1-101-899	15pF	ceramic	C501	1-105-412-12	0.015μF	mylar
C236	1-101-899	15pF	ceramic	C502	1-127-021	0.33μF 10 V	electrolytic (alox)
				C503	1-127-020	0.22μF 10 V	electrolytic (alox)
C301	1-105-411-12	0.01μF	mylar	C504	1-107-138	200pF	silvered mica
C302	1-105-411-12	0.01μF	mylar	C505	1-127-019	0.1μF 10 V	electrolytic (alox)
C303	1-105-413-12	0.022μF	mylar	C506	1-121-413	100μF 6.3 V	electrolytic
C304	1-105-413-12	0.022μF	mylar	C507	1-121-420	220μF 10 V	electrolytic
C305		— discarded —		C508	1-121-395	4.7μF 25 V	electrolytic
C306		— discarded —		C509	1-121-358	220μF 16 V	electrolytic
C307	1-105-411-12	0.01μF	mylar	C510	1-105-411-12	0.01μF	mylar
C308		— discarded —		C511	1-105-829-12	0.0047μF	mylar
C309		— discarded —		C512	1-105-829-12	0.0047μF	mylar
C310	1-121-398	10μF 25 V	electrolytic	C513	1-105-419-12	0.22μF	mylar
C311		— discarded —		C514	1-121-426	470μF 16 V	electrolytic
C312	1-121-409	47μF 16 V	electrolytic	C515	1-105-503-12	0.0015μF	mylar
C313	1-121-413	100μF 6.3 V	electrolytic	C516		— discarded —	
C314	1-105-411-12	0.01μF	mylar	C517		— discarded —	
C315	1-105-413-12	0.022μF	mylar	C518		— discarded —	
C316		— discarded —		C519	1-101-963	100pF	ceramic

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>		<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
C601	1-121-186	1,000 $\mu$ F	16 V electrolytic	R228	1-242-652	130 $\Omega$
C602	1-121-186	1,000 $\mu$ F	16 V electrolytic	R229		— discarded —
C603	1-115-110	0.0047 $\mu$ F	paper	R230	1-244-726	160 k $\Omega$
C604	1-115-110	0.0047 $\mu$ F	paper	R231	1-244-649	100 $\Omega$
C01	1-105-839-12	0.033 $\mu$ F	mylar	R232	1-242-697	10 k $\Omega$
C02	1-105-675-12	0.015 $\mu$ F	mylar	R233	1-244-694	7.5 k $\Omega$
C03	1-105-839-12	0.033 $\mu$ F	mylar	R301	1-242-704	20 k $\Omega$
C04	1-102-764	100 pF	ceramic	R302	1-242-703	18 k $\Omega$
C05	1-103-751	100 pF	styrol	R303	1-242-643	56 $\Omega$
<b>RESISTORS</b>				R304	1-242-673	1 k $\Omega$
All resistors are $\frac{1}{4}$ W $\pm 5\%$ carbon type resistors unless otherwise noted.				R305	1-242-673	1 k $\Omega$
R101	1-208-027	560 $\Omega$	$\frac{1}{10}$ W ceramic	R306		— discarded —
R102	1-208-027	560 $\Omega$	$\frac{1}{10}$ W ceramic	R307	1-242-708	30 k $\Omega$
R103	1-244-697	10 k $\Omega$		R308	1-242-719	82 k $\Omega$
R104	1-244-697	10 k $\Omega$		R309	1-242-713	47 k $\Omega$
R105	1-208-045	3.3 k $\Omega$	$\frac{1}{10}$ W ceramic	R310	1-242-708	30 k $\Omega$
R106	1-208-145	100 k $\Omega$	$\frac{1}{10}$ W ceramic	R311	1-242-673	1 k $\Omega$
R107	1-208-145	100 k $\Omega$	$\frac{1}{10}$ W ceramic	R312		— discarded —
R108	1-208-088	200 k $\Omega$	$\frac{1}{10}$ W ceramic	R313	1-242-684	3 k $\Omega$
R109	1-208-027	560 $\Omega$	$\frac{1}{10}$ W ceramic	* R314	1-242-706	24 k $\Omega$
R110	1-208-033	1 k $\Omega$	$\frac{1}{10}$ W ceramic		1-242-707	27 k $\Omega$
R201	1-242-666	510 $\Omega$			1-242-708	30 k $\Omega$
R202	1-242-737	470 k $\Omega$			1-242-709	33 k $\Omega$
R203	1-242-657	220 $\Omega$			1-242-710	36 k $\Omega$
R204	1-242-657	220 $\Omega$			1-242-711	39 k $\Omega$
R205	1-242-667	560 $\Omega$		R315		— discarded —
R206	1-242-662	360 $\Omega$		R316	1-242-719	82 k $\Omega$
R207	1-244-661	330 $\Omega$		R317	1-242-643	56 $\Omega$
R208	1-242-663	390 $\Omega$		R318	1-242-665	470 $\Omega$
R209	1-242-673	1 k $\Omega$		R319	1-242-683	2.7 k $\Omega$
R210		— discarded —		* R320	1-244-658	240 $\Omega$
R211		— discarded —			1-244-659	270 $\Omega$
R212		— discarded —			1-244-660	300 $\Omega$
R213	1-242-680	2 k $\Omega$			1-244-661	330 $\Omega$
R214	1-242-657	220 $\Omega$			1-244-662	360 $\Omega$
R215		— discarded —		R321	1-244-663	390 $\Omega$
R216	1-242-672	820 $\Omega$			1-242-684	3 k $\Omega$
R217	1-244-673	1 k $\Omega$		R322	1-242-660	300 $\Omega$
R218	1-242-667	560 $\Omega$		R323	1-242-697	10 k $\Omega$
R219	1-242-657	220 $\Omega$		R324	1-242-701	15 k $\Omega$
R220	1-242-658	240 $\Omega$		R325		— discarded —
R221	1-242-661	330 $\Omega$		R326	1-242-697	10 k $\Omega$
R222	1-244-667	560 $\Omega$		R327	1-242-660	300 $\Omega$
R223	1-244-667	560 $\Omega$		R328	1-242-643	56 $\Omega$
R224	1-244-657	220 $\Omega$		R329	1-242-706	24 k $\Omega$
R225	1-244-637	33 $\Omega$		R330	1-242-657	220 $\Omega$
R226	1-242-689	4.7 k $\Omega$		R331	1-242-657	220 $\Omega$
R227	1-244-643	56 $\Omega$		R332	1-242-696	9.1 k $\Omega$
				R333	1-242-643	56 $\Omega$
				R334		— discarded —
				R335		— discarded —
				R336	1-242-721	100 k $\Omega$

\* : to be selected (See page 14)

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
R337	1-242-657	220Ω
R338	1-242-673	1 kΩ
R339	1-242-673	1 kΩ
R340	1-242-673	1 kΩ
R341	1-242-691	5.6 kΩ
R342	1-242-699	12 kΩ
R343	1-242-731	270 kΩ
R344	1-242-673	1 kΩ
R350	1-242-652	130Ω
R351	1-242-684	3 kΩ
R352	1-242-666	510Ω
R353	1-242-691	5.6 kΩ
R354	1-242-721	100 kΩ
R355	1-242-697	10 kΩ
R401		— discarded —
R402	1-242-665	470Ω
R403		— discarded —
R404	1-242-657	220Ω
R405	1-242-686	3.6 kΩ
R406	1-244-709	33 kΩ
R501	1-242-673	1 kΩ
R502	1-242-713	47 kΩ
R503	1-242-680	2 kΩ
R504	1-242-691	5.6 kΩ
R505	1-242-708	30 kΩ
R506	1-242-632	20Ω
R507	1-242-680	2 kΩ
R508	1-242-688	4.3 kΩ
R509	1-242-618	5.1Ω
R510	1-242-636	30Ω
R511	1-242-673	1 kΩ
R512	1-242-643	56Ω
R513	1-242-664	430Ω
R514	1-242-680	2 kΩ
R515	1-242-810	2.4Ω
R516	1-242-449	100Ω
R517	1-242-721	100 kΩ
R518	1-242-656	200Ω
R701	1-202-645	1 MΩ 1/2 W carbon

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
R01	1-244-668	620Ω
R02	1-244-678	1.6 kΩ
R03	1-244-669	680Ω
R04	1-244-663	390Ω
R05	1-244-654	160Ω
R06	1-244-710	36 kΩ

**MISCELLANEOUS**

TEL ANT	1-501-113	antenna, telescopic
SP	1-502-069	speaker, 8Ω
CV101~104	1-151-158	capacitor, fm tuning
CT101~103		
CV201~203	1-151-201	capacitor, a-m tuning
CT104	1-141-086	capacitor, fm osc trimmer
CT201, 202	1-141-011	capacitor, trimmer, 2 gang
CT203~205	1-141-015	capacitor, trimmer, 3 gang
CT206~208	1-141-015	capacitor, trimmer, 3 gang
CT209, 210	1-141-011	capacitor, trimmer, 2 gang
CT211, 212	1-141-011	capacitor, trimmer 2 gang
CT213~215	1-141-015	capacitor, trimmer 3 gang
VR01, 301	1-222-519	BFO PITCH, MGC control
VR401	1-221-635	variable resistor, regulator adjust
VR501, 502	1-222-503	VOL and TONE control
J503	1-507-169-13	jack, record out
J504	1-507-169-13	jack, earphone
	1-507-901-12	nut, jack
S301, 302	1-514-091-14	switch, SENS (LOCAL/DX)
S303~305	1-514-454-12	switch, fm/a-m selector
S307~312		
S306	1-514-091-14	switch, AFC
S201~210	1-514-577	switch, band select
TM	1-520-092-22	meter, tuning
PL1	1-518-006-01	lamp, LIGHT
PL2	1-518-006-01	lamp, LIGHT
	1-534-538-11	ac cord with plug
	8-981-391-10	fm front end block, FMC-094W1
	Y-38691-11-1	bfo block, BFO-2B
	1-538-793-12	printed circuit board, fm front end
	1-539-629-12	printed circuit board, bfo
	1-581-013-12	printed circuit board, cp
	1-581-159-11	printed circuit board, i-f/af
	1-539-192-13	printed circuit board, power

When ordering replacement parts you should use **PART NUMBER** listed on the Parts List or shown in the Exploded View.  
The reference number should not be used for ordering purposes.

**SONY CORPORATION**